Biomedical Sciences, M.S.

LEWIS KATZ SCHOOL OF MEDICINE (http://www.temple.edu/medicine)

About the Program

The M.S. program is aimed at broad interdisciplinary training in the major areas of Biomedical Sciences. The goal is to train students in the theory and practice of Biomedical Sciences for eventual service in research and teaching. Students are instructed in diverse laboratory techniques through a series of lecture and laboratory courses, and provided with a program of experimental research for thesis students under the guidance of a faculty member. Two options are available:

- Thesis Track, with a transcripted concentration in the area of thesis research. Five areas of concentration or clusters are available: Cancer Biology and Genetics, Infectious Disease and Immunity, Molecular and Cellular Biosciences, Neuroscience, and Organ Systems and Translational Medicine. Students complete and defend a master's thesis under the supervision of a faculty member.
- Non-Thesis Track, which is in General Biomedical Sciences. Students complete didactic coursework in each of the five cluster areas.

Time Limit for Degree Completion: 3 years

Campus Location: Health Sciences. With the permission of the student's Advisory Committee, elective courses not offered on the Health Sciences Campus may be taken at other campuses.

Full-Time/Part-Time Status: The M.S. degree program is designed as a full-time day program of study to be completed in 20 to 24 months.

Interdisciplinary Study: The graduate program in Biomedical Sciences is interdisciplinary and emphasizes translational research. Students have the opportunity to work with faculty in disease-based research centers in the Lewis Katz School of Medicine, including the Center for Inflammation, Translational and Clinical Lung Research; Center for Metabolic Disease Research; Center for Neurovirology; Center for Substance Abuse Research; Center for Translational Research; Comprehensive NeuroAIDS Center; Fels Institute for Cancer Research and Molecular Biology; Independence Blue Cross Cardiovascular Research Center; Shriners Hospitals Pediatric Research Center; Sol Sherry Thrombosis Research Center; and Temple Autoimmunity Center.

Ranking: The 2014 U.S. News and World Report ranked Temple University's School of Medicine number 54 in Research and among the Best Medical Schools.

Areas of Specialization: This interdisciplinary Biomedical Sciences graduate program offers five areas of concentration for students who plan to earn the M.S. with a thesis:

- Cancer Biology and Genetics
- Infectious Disease and Immunity
- Molecular and Cellular Biosciences
- Neuroscience
- Organ Systems and Translational Medicine

Job Prospects: This well-balanced program has been designed to be individually tailored to meet the interests and needs of each student and to fully prepare each student for a Biomedical Sciences career in academia, industry, and government. The graduate program is designed to provide training in the theory and practice of Biomedical Sciences for eventual placement in research and teaching positions.

Non-Matriculated Student Policy: Non-matriculated students may enroll in some courses with permission from the course instructor and approval from the Office of Graduate Studies at the Lewis Katz School of Medicine.

Financing Opportunities: Limited financial support is available for M.S. students.

Admission Requirements and Deadlines

Pre-Application Deadline for International Applicants Only:

All international applicants who have not earned a degree in the United States or from an institution where English is the sole language of instruction are required to complete a Pre-Application for approval before applying. The Pre-Application is found on the Biomedical Sciences website at http://www.temple.edu/medicine/biomedical_sciences/apply/preapp.htm and must be submitted electronically by October 31.

Application Deadline:

Fall: February 15

Applications are processed as they are received. Late applications may be considered for admission.
APPLY ONLINE to this graduate program.

**Letters of Reference:**
*Number Required: 3*

*From Whom:* Letters of recommendation should be obtained from faculty and supervisors of research experiences.

**Coursework Required for Admission Consideration:** Applicants should have undergraduate training in the life sciences such as Biology, Biochemistry, Cell Biology, or Molecular Biology and Genetics. Students are also expected to have training in Chemistry and Mathematics.

**Bachelor's Degree in Discipline/Related Discipline:** A baccalaureate degree in the Biological or Chemical Sciences is required.

**Statement of Goals:** Approximately 500 to 1,000 words include your interest in Temple's Biomedical Sciences graduate program; your research interests and past experiences; your future career goals; and your academic and research achievements.

**Standardized Test Scores:**
*GRE: Required. Acceptance by Temple University requires submission of verbal, quantitative, and analytical GRE scores. GRE scores below the 50th percentile are outside the norm set by the Graduate School, and no individual score in the verbal, quantitative, or analytical sections should be below that level.*

For applicants whose native language is not English, the TOEFL, IELTS, or PTE Academic exam is required:

- **TOEFL:** 79 iBT or 550 PBT minimum
- **IELTS:** 6.5 minimum
- **PTE Academic:** 53 minimum

**Transfer Credit:** Graduate credits from an accredited institution may be transferred into the M.S. program in Biomedical Sciences. The credits must be equivalent to coursework offered at Temple, and the grades earned must be a "B" or better in order to transfer. The Academic Affairs Committee reviews the courses and makes the recommendation to accept the credits based on the student's knowledge of the course material and initial performance in the program. The maximum number of credits a student may transfer is 12.

**Test Waivers:** Upon review of the student's background by the Graduate Admissions Committee, applicants with high levels of performance in one or more areas can gain favorable consideration for an application that is otherwise outside the acceptance matrix.

**Program Requirements**

**General Program Requirements:**

*Number of Credits Required Beyond the Baccalaureate:* 30 Thesis Track or 36 Non-Thesis Track

**Required Courses:**

All students participate in a common first-year interdisciplinary experience that includes the following core courses:

- Molecules to Cells
- Organ Systems: Function, Dysfunction and Therapies
- Scientific Design and Biostatistics
- Scientific Communications
- Bioinformatics
- Scientific Integrity

Advanced elective courses are selected for one of the following tracks:

- **Thesis Track (6 credits in the area of concentration)**
- **Non-Thesis Track (20 credits, with at least one course in each of the five areas of concentration)**

**Seminar/Specialized Journal Club**

**Culminating Events:**

**Thesis:**
For the Thesis Track, the thesis must be based on an original research project. It should demonstrate the student's familiarity with laboratory techniques related to the research project and the ability to evaluate critically the literature in the student's chosen area. The student submits the thesis in complete form not less than 14 days prior to the date of the final examination. The thesis must have been read and approved by the thesis advisor prior to distribution. The student should confirm a time and date for the thesis defense with the Final Examination Committee.
The final examination consists of a defense of the student's thesis to demonstrate competence within the field of the thesis and closely related areas. The student's Advisory Committee votes to pass or fail the thesis and the defense at the conclusion of the presentation. If the student must make revisions, those changes must be approved as arranged by the Committee.

Note that the Non-Thesis Track has no culminating event. Students may elect to obtain research experience within a laboratory.

**Contacts**

**Program Web Address:**
http://www.temple.edu/medicine/biomedical_sciences/

**Department Information:**
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**Mailing Address for Application Materials:**
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**Department Contacts:**

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