Chemistry, Ph.D.

COLLEGE OF SCIENCE AND TECHNOLOGY (http://cst.temple.edu)

About the Program
The Chemistry graduate program is designed to provide a solid background in the chosen area of specialization. It emphasizes the acquisition of skills that enable students to gain further knowledge in their research and professional careers. For this reason, the Chemistry graduate degree program is research oriented, and seminar attendance and familiarization with the chemical literature are considered integral. The course requirements are comparatively light, although a wide variety of intermediate and advanced courses in related areas are offered. Students are encouraged to take courses in related areas, such as Biology, Computer Science, and Physics, according to their research interests.

Time Limit for Degree Completion: 7 years

Campus Location: Main

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

Interdisciplinary Study: A Chemical Physics program is offered jointly with the Department of Physics.

Areas of Specialization: The Department of Chemistry offers programs leading to the M.A. and Ph.D. degrees in Analytical Chemistry, Biochemistry, Inorganic Chemistry, Organic Chemistry, and Physical Chemistry. Areas of specialization include environmental chemistry, materials and polymers, medicinal, nanoscience, photonics, and surface science.

Job Prospects: The majority of students find employment in the chemical industry. Some go on to academic positions or positions in government laboratories.

Non-Matriculated Student Policy: Non-matriculated students are allowed to take up to 9 credits before admission into a degree program must be sought.

Financing Opportunities: The duties of a Teaching Assistant typically involve leading recitation sections and/or overseeing laboratories, as well as grading lab assignments, tests, and quizzes, when applicable. After their first year, most students are supported by a research assistantship.

Admission Requirements and Deadlines

Application Deadline:
Fall: December 15; January 1 international
Spring: September 15; August 1 international

For Fall admissions, priority will be given to applications submitted by December 15. Applications submitted after December 15 will be considered on a case-by-case basis for admissions and financial assistance.

Applications for Spring admission should be received by September 15. Note, however, that Spring admission is rare as coursework is designed to start in the Fall.

APPLY ONLINE to this graduate program.

Letters of Reference:
Number Required: 3

From Whom: Letters of recommendation should be obtained from faculty or people in industry who are familiar with the academic and/or research aptitude of the candidate.

Master's Degree in Discipline/Related Discipline: A master's degree is not required for admission into the Ph.D. program.

Bachelor's Degree in Discipline/Related Discipline: A baccalaureate degree is required. Typically, the undergraduate degree has been earned in Chemistry, Biochemistry, or a related field.

Statement of Goals: Include your specific interest in Temple's program; your research goals; your future career goals; and your academic and research achievements.

Standardized Test Scores:
GRE: Required. If the applicant's GPA is below 3.25, s/he can be considered for appointment as a Teaching Assistant if her/his percentile scores on the verbal and quantitative portions of the GRE sum to at least 100%.
TOEFL: 88 iBT or 575 PBT minimum. Regardless of score, all international students are required to take a SPEAK test upon arrival at Temple.

**Resume**: Current resume required.

**Other**: Submission of research papers with the applicant as a co-author or any other material associated with the applicant’s research aptitude is recommended.

## Program Requirements

### General Program Requirements:
- **Number of Credits Required Beyond the Master's**: 12
- **Number of Credits Required Beyond the Baccalaureate**: 42

### Required Courses:

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Required Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Six formal lecture courses</td>
<td>18</td>
</tr>
<tr>
<td>Literature seminar</td>
<td>2</td>
</tr>
<tr>
<td>Research courses 1</td>
<td>21</td>
</tr>
<tr>
<td>CHEM 8985 Teaching in Higher Ed-Phys Sci</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total Credit Hours</strong></td>
<td><strong>42</strong></td>
</tr>
</tbody>
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1. Coursework includes a combination of CHEM 9994 Preliminary Examination Preparation, CHEM 9998 Pre-Dissertation Research, and CHEM 9999 Doctoral Dissertation, with a minimum of 2 credits of CHEM 9999 required.

### Culminating Events:
- **Literature Seminar**:
  The Ph.D. student makes the presentation of one departmental seminar on a current literature topic or her/his research, as approved by the seminar professor. The seminar is 30 minutes in length and should include any background material needed to allow the audience to appreciate the topic(s) discussed.

- **Cumulative Examinations**:
  Cumulative examinations are a major part of the preliminary examinations. Written by the Graduate Faculty, cumulative examinations are offered seven times a year. Each cumulative examination is evaluated by at least two Graduate Faculty members. Students entering the program in Fall 2012 or later must pass a total of five “cumes” within the first two years of matriculation. Note that students who began their program of study prior to Fall 2012 must pass six cumes in three years.

- **Original Research Proposal**:
  To obtain Ph.D. candidacy, the student is required to write, present, and defend an Original Research Proposal (ORP). The topic of the ORP can be related to the student’s research, but must still be original. The proposal is an opportunity for the student to use her/his scientific knowledge to demonstrate her/his ability to formulate experiments, calculations, theory, etc. to address an important scientific problem. The ORP should also contain a description of the actual research that the student will pursue for her/his Ph.D.

  The student must consult with her/his research advisor for guidance prior to writing the ORP. It is understood by writing this document that a general experience in research will help evolve new chemistry through observations made during the course of an ongoing research problem. The ORP needs to be defended within 30 months of matriculation for students entering the program in Fall 2012 or later. Note that students who started prior to this date must defend the document within 42 months of matriculation.

- **Dissertation**:
  The doctoral dissertation is an original study that makes a significant contribution to the field of Chemistry. It should expand the existing knowledge and demonstrate the student’s knowledge of research methods and a mastery of her/his primary area of interest. The dissertation should be rigorously investigated; uphold the ethics and standard of the field of Chemistry; demonstrate an understanding of the relationship between the primary area of interest and the broader field of Chemistry; and be prepared for publication in a professional journal.

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

  The Dissertation Examining Committee evaluates the student's dissertation and oral defense. This committee is comprised of the Doctoral Advisory Committee and at least one additional Graduate Faculty member from outside the Chemistry Department. The Outside Examiner should be identified no later than the beginning of the academic term in which the student will defend the dissertation. The Dissertation Examining Committee evaluates the student's ability to express verbally her/his research question, methodological approach, primary findings, and implications. The Committee votes to pass or fail the dissertation and the defense.
If a student needs to change a member of a Committee, the new member must be approved by the department's Graduate Committee and registered with the Graduate Secretary and the Graduate School.

Students who are preparing to defend their dissertation should confirm a time and date with their Dissertation Examining Committee and register with the Graduate Secretary at least 15 days before the defense is to be scheduled. The Graduate Secretary arranges the time, date, and room within two working days, and forwards to the student the appropriate forms. After the time, date, and room have been arranged for the defense, the student is required to send the Graduate School a completed "Announcement of Dissertation Defense" form, found at http://www.temple.edu/grad/forms/, at least 10 days before the defense. The student posts flyers announcing the defense.

Contacts

Program Web Address:
https://chem.cst.temple.edu/graduate/

Department Information:
Dept. of Chemistry
130 Beury Hall
1901 N. 13th Street
Philadelphia, PA 19122
chemgrad@temple.edu
215-204-7118

Mailing Address for Application Materials:
Dept. of Chemistry
400 Carnell Hall (041-03)
1803 N. Broad Street
Philadelphia, PA 19122-6095

Department Contacts:

Admissions:
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