# Chemistry, PhD (Boston)

The PhD program in chemistry is designed for students who have earned a bachelor's or a master's degree in chemistry or related areas and who wish to earn a doctorate in chemistry. Research spans a wide range of multidisciplinary fields, with strengths in clean energy, polymers, materials, medicinal chemistry, bioanalytical chemistry, and chemical biology. Our research programs draw from a strong foundation in analytical, organic, physical, and biological chemistry in a collaborative and diverse environment. Our student-focused approach to mentoring, a strong graduate student association, and faculty deeply rooted both in academics and industry provide a flexible platform for student development toward a large diversity of career paths.

Students typically take courses their first year while supported on teaching assistantships and achieve PhD candidacy in the second year. The primary emphasis of the program is on the completion of an original research project, its articulation in a well-written thesis, and its subsequent defense before the thesis committee through an open seminar followed by oral examination by the committee members.

## PhD Program Requirements

## Bachelor's Degree Entrance

Complete all courses and requirements listed below unless otherwise indicated.

## Milestones

Three qualifying examinations
Annual review
Candidacy
Minimum of two seminars
Dissertation committee
Dissertation proposal
Dissertation defense

## Core Requirements

| Code | Title | Hours |
|---|---|---|
| **Required Core** | | |
| CHEM 5600 | Research Skills and Ethics in Chemistry | 3 |
| CHEM 7710 | Laboratory Rotations in Chemistry and Chemical Biology | 0 |
| CHEM 7750 | Advanced Problem Solving | 3 |
| Complete the following (repeatable) course three times: | | 3 |
| CHEM 5501 | Chemical Safety in the Research Laboratory | |
| **Seminar** | | |
| At least one seminar must be taken for a letter grade. | | |
| CHEM 8504 | Graduate Seminar | 1 |
| **Research** | | |
| CHEM 8984 | Research | 1-6 |
| **Chemistry** | | |
| Complete 18 semester hours from the following: | | 18 |
| CHEM 5550 or within the range of CHEM 5610 to CHEM 7320 | | |

## Dissertation

| Code | Title | Hours |
|---|---|---|
| Complete the following courses: | | |
| CHEM 9990 | Dissertation Term 1 | |
| CHEM 9991 | Dissertation Term 2 | |
| Registration in the following course is required for any additional terms taken to complete the dissertation. | | |
| CHEM 9996 | Dissertation Continuation | |

## Program Credit/GPA Requirements

32 total semester hours required
Minimum 3.000 GPA required

## Advanced Entry Program Requirements

Advanced entry into the PhD program requires a master's degree in chemistry or a related area. Graduate courses taken during acquisition of the Master of Science degree allow completion of the PhD program with fewer course credits. Other than the course requirements, which are specified separately, see the PhD program requirements for details.

### INDUSTRY ENTRY PHD

This program is strictly for students who already have a master's degree in chemistry or related area and have full-time employment at a company. The company must commit to all financial responsibilities accrued in obtaining the degree and allow time for the student to work on a PhD thesis in collaborative research with a company supervisor and one of our faculty members. Graduate courses in the Department of Chemistry and Chemical Biology are generally taught in the evenings to accommodate the fact that our students work in industry during the day.

Complete all courses and requirements listed below unless otherwise indicated.

## Milestones

Three qualifying examinations
Annual review
Candidacy
Minimum of two seminars
Dissertation committee
Dissertation proposal
Dissertation defense

## Core Requirements

| Code | Title | Hours |
|---|---|---|
| **Required Core** | | |
| CHEM 5600 | Research Skills and Ethics in Chemistry | 3 |
| CHEM 7750 | Advanced Problem Solving | 3 |
| **Seminar** | | |
| CHEM 8504 | Graduate Seminar | 1 |

## Dissertation

| Code | Title | Hours |
|---|---|---|
| CHEM 9990 | Dissertation Term 1 | |
| CHEM 9991 | Dissertation Term 2 | |

## Program Credit/GPA Requirements

7 total semester hours required
Minimum 3.000 GPA required