

CHEMISTRY (PH.D.)

<https://ceps.unh.edu/chemistry/program/phd/chemistry-chemistry-education>

Description

The Ph.D. program prepares students for careers in science as researchers and educators by expanding their knowledge of chemistry while developing their ability for critical analysis, creativity, and independent study. Graduates are well placed for careers as professional chemists in industry, academia, government, and related areas. All students take coursework, carry out original research with a faculty mentor, and submit a dissertation. The program has a focus on developing strong writing and oral communication skills. Financial support is typically available through a teaching assistantship.

Requirements

Ph.D. Degree Requirements

- Demonstration of a broad understanding of undergraduate chemistry by completing placement exams upon entry into the program. These are usually held during the Department Orientation Week.
- Coursework: To be determined with the consent of the research advisor beyond the 1st. semester, a minimum of 6 courses is required including a minimum of 3 at the 900 level.
- Professional development courses required - 4 courses.
- Attendance at Department Seminars and Research Lunch Talks.
- Satisfactory presentation of a Research Progress Report in the second year of residence
- Present a department seminar on a topic unrelated to dissertation research in the third year of residence.
- Preparation and oral defense of an original research prospectus in the third year of residence. Successful completion of the research proposal defense enables the student to advance to candidacy.
- Preparation, public presentation, and oral defense of a written dissertation.
- Required 3.0 GPA or above to graduate.

Faculty Research Advisor and Dissertation Committee

Students select a research advisor during the first semester in the program after interviewing at least three faculty members. During each semester thereafter, students conduct independent research under the supervision of the Faculty Research Advisor. In the second year of residence and before the Research Progress Report, a dissertation committee is selected. This committee evaluates the student's Research Progress Report and the Research Proposal Defense. Once the Research Proposal Defense has been passed and the student advances to candidacy, a fifth committee member is selected and added to the Dissertation Committee to evaluate the Dissertation Defense.

Code	Title	Credits
Professional Development Courses		
CHEM 800	Chemistry Teaching Seminar	1
CHEM 802	Critical and Creative Thinking for Chemists	1
CHEM 992	Graduate Writing Portfolio	1
CHEM 997	Seminar	1
Program Courses		

CHEM 808	Spectroscopic Investigations of Organic Molecules	3
CHEM 855	Advanced Organic Chemistry	3
CHEM 903	Advanced Inorganic Chemistry I	3
CHEM 902	Theoretical Organic Chemistry II	3
CHEM 904	Advanced Inorganic Chemistry II	3
CHEM 905	Advanced Physical Chemistry I	3
CHEM 911	Synthetic Organic Chemistry I	4
CHEM 917	Advanced Special Topics	2-4
CHEM 918	Advanced Special Topics	2-4
CHEM 925	Surface Chemistry	3
CHEM #926	Physical Chemistry of Condensed Phases	3
CHEM 927	Chemical Kinetics and Reaction Dynamics	3
CHEM 930	Advanced Optical Methods	3
CHEM 933	Chemical Separations	3
CHEM 934	Chemical Equilibria	3
CHEM 935	Advanced Analytical Chemistry	3
CHEM 995	Colloquium	1-4
MATH 835	Statistical Methods for Research	3
Research		
CHEM 999	Doctoral Research	0