

CHEMISTRY, PHD

The Graduate Program is designed for students who wish to earn a Ph.D. in Chemistry while undertaking cutting edge research. The program provides students with the necessary theoretical background and hands-on training to become independent and highly successful scientists.

Graduate students achieve mastery of advanced chemistry topics through courses in different subdisciplines.

Graduate students conduct research in the fields of bioinorganic chemistry, bioorganic chemistry, chemical biology, biophysical chemistry, bioinformatics, materials science, laser chemistry, health related chemistry, structural and dynamical studies of biological systems, X-ray scattering/diffraction, NMR spectroscopy, applications of computing and computer graphics, as well as investigations of chemical communication and hormone-receptor interactions.

For more information: <https://www.chem.upenn.edu/content/phd-program> (https://www.chem.upenn.edu/content/phd-program/)

Curriculum

Code	Title	Course Units
Required Courses		
CHEM 6010	Chemical Information	1
or CHEM 6011	Chemical Information for Biological Chemists	
or CHEM 6012	Chemical Information for Inorganic and Materials Chemists	
or CHEM 6013	Chemical Information for Organic Chemists	
or CHEM 6014	Chemical Information for Physical Chemists	
Chemistry Courses between 4000-9998		6
Electives ¹		13
<i>Teaching Requirement</i>		
Two semesters of teaching are required		
Total Course Units		20

University PhD Benchmarks

In addition to Program requirements, the following milestones must be completed:

Code	Title	Course Units
	Qualifying Evaluation	
	Candidacy Examination	
	Dissertation Defense/Oral Exam	
	Dissertation Deposit	

For more information view the University's Academic Rules for PhD Programs (<http://catalog.upenn.edu/pennbook/academic-rules-phd/>).

¹ Including lab rotations for Biological and Biophysical students.

consult with their academic program regarding final certifications and requirements for graduation.

Sample Plan of Study

Code	Title	Course Units
Year 1		
Select 6 course units of required coursework		
Chemical Information Course		
Choose a Research Supervisor		
Year 2		
CHEM 9999	Independent Study and Research	
Form Dissertation Committee		
Candidacy Exam		
Year 3		
CHEM 9999	Independent Study and Research	
Annual Meeting of the Dissertation Committee		
Year 4		
CHEM 9999	Independent Study and Research	
Annual Meeting of the Dissertation Committee		
Years 5 and 6		
Write Dissertation		
Public Defense		

Additional Coursework may be taken throughout.

The degree and major requirements displayed are intended as a guide for students entering in the Fall of 2025 and later. Students should