CHEMISTRY (PHD)

Doctoral study in Chemistry at Loyola University Chicago is designed to develop within students the foundational skills for industrial work, academic research, and teaching careers in diverse learning communities. The department of chemistry offers opportunities for graduate study in sub-fields of chemistry such as Physical & Surface Chemistry, Medicinal Chemistry, Theoretical Chemistry, Biochemistry and Chemical Education.

Curriculum

The PhD in Chemistry requires 60 credit hours earned through 6 (six) required courses and 42 credit hours of research in their sub-field, as well as an entrance examination, comprehensive examination, and dissertation. Students may choose a specialization in Analytical Chemistry, Biochemistry, Chemistry Education, Inorganic Chemistry, Organic Chemistry, or Physical Chemistry.

Code	Title	Hours
CHEM 401	Chemistry Methodology and Communication	3
Select at least One Course in Area of Specialization		**3**
Analytical		
CHEM 455	Special Topics in Analytical Chemistry (Archeometry)	
CHEM 455	Special Topics in Analytical Chemistry (Adv Analytical Chemistry)	
Biochemistry		
CHEM 465	Special Topics in Biochemistry (Plant Biochemistry)	
CHEM 465	Special Topics in Biochemistry (The Chemistry of Enzymes)	
CHEM 465	Special Topics in Biochemistry (Biochem of Lipids)	
CHEM 465	Special Topics in Biochemistry (Adv Approahces in Biochemistry)	
CHEM 465	Special Topics in Biochemistry (Adv Enzyme Kinetics and Mech)	
CHEM 465	Special Topics in Biochemistry	
CHEM 465	Special Topics in Biochemistry (Molecular Immunology)	
CHEM 465	Special Topics in Biochemistry (Biochem of Renewable Energy)	
CHEM 465	Special Topics in Biochemistry (Proteomics)	
CHEM 470	Biochemistry I	
Education		
CHEM 480	Chemistry for Teachers I	
Inorganic		
CHEM 441	Advanced Inorganic Chemistry	
CHEM 445	Special Topics in Inorganic Chemistry (Molecular Characterization Part B)	
CHEM 445	Special Topics in Inorganic Chemistry (Medicinal Inorganic Chem)	
CHEM 445	Special Topics in Inorganic Chemistry (Electron and X-ray Methods)	
Organic		
CHEM 422	Advanced Organic Chemistry III: Mechanism	
CHEM 423	Medicinal Chemistry	
CHEM 424	Molecular Characterization Part A	
CHEM 425	Special Topics in Organic Chemistry (Orgo Structure Determination)	
CHEM 425	Special Topics in Organic Chemistry (Strategy & Tactics of Org Chem)	
CHEM 425	Special Topics in Organic Chemistry	
CHEM 425	Special Topics in Organic Chemistry (Func Dyes Biomed Imaging)	
CHEM 425	Special Topics in Organic Chemistry (Adv Orgo-Synthesis and Mech)	
CHEM 425	Special Topics in Organic Chemistry (Comp Organomet Chem)	
CHEM 425	Special Topics in Organic Chemistry (Advanced Organic Synthesis)	
Physical		
CHEM 435	Special Topics in Physical Chemistry (Exp Tech of Surface Science)	
CHEM 435	Special Topics in Physical Chemistry (Survey of Modern Physical Chemistry)	
CHEM 435	Special Topics in Physical Chemistry (Surface Chem and Analysis)	
CHEM 435	Special Topics in Physical Chemistry (Thermodynam/ Protein Structures)	
CHEM 435	Special Topics in Physical Chemistry (Computational Chemistry)	
Select Four Graduate Electives		*12*
Research in Specialization		*42*
CHEM 610	Doctoral Study	0
CHEM 600	Dissertation Supervision	0
Total Hours		**60**

All PhD students and students in thesis-based Master's degree programs must successfully complete UNIV 370 Responsible Conduct in Research and Scholarship or other approved coursework in responsible conduct of research as part of the degree requirements. It is strongly recommended that students complete this two-day training before beginning the dissertation/thesis stage of the program.

PhD Students will complete entrance exams, a comprehensive exam and then propose and defend research towards the dissertation.

Graduate Level Chemistry Courses

To fulfill course requirements, students can choose from graduate chemistry courses per specialization listed below.

Graduate & Professional Standards and Regulations

Students in graduate and professional programs can find their Academic Policies in Graduate and Professional Academic Standards and Regulations (https://catalog.luc.edu/graduate-professional-academic-standards-regulations/) under their school. Any additional University Policies supercede school policies.