

CHEMISTRY (MS)

The Graduate Chemistry program at Loyola University Chicago encompasses the traditional fields of specialization, including: *Analytical Chemistry, Biochemistry, Chemical Education, Inorganic Chemistry, Organic Chemistry and Physical Chemistry*

For students who enroll in our course-based Master of Science program, you will enjoy the small class sizes found in our upper level courses and access it provides to your instructors. Students with a strong interest in research can choose to obtain a thesis-based master's in a diverse range of subjects. Our MS students receive the academic rigor and laboratory instrumentation access associated with our PhD program in a flexible and condensed schedule expected of a master's program.

Curriculum

The Master of Science in Chemistry requires 30 credit hours. Students may choose a course-based or thesis-based program, depending on their future goals.

Master of Science in Chemistry (Course-Based)

Required Coursework

Code	Title	Hours
CHEM 401	Chemistry Methodology and Communication	3
<i>Select four from the following</i>		12
CHEM 424	Molecular Characterization Part A	
CHEM 435	Special Topics in Physical Chemistry	
CHEM 445	Special Topics in Inorganic Chemistry	
CHEM 455	Special Topics in Analytical Chemistry	
CHEM 465	Special Topics in Biochemistry	
CHEM 480	Chemistry for Teachers I	
	Chemistry Research (no more than 3cr hours)	
400 Level Chemistry Electives ¹		15
Total Hours		30

¹ Elective courses can be distributed or in a specialized area as determined by student. A list of all 400 level Chemistry courses can be found here (<https://catalog.luc.edu/graduate-professional/graduate-school/arts-sciences/chemistry-biochemistry/#coursestext>).

Master of Science in Chemistry (Thesis-Based)

Required Coursework

Code	Title	Hours
CHEM 401	Chemistry Methodology and Communication	3
<i>Select one of the following:</i>		3
CHEM 424	Molecular Characterization Part A	
CHEM 435	Special Topics in Physical Chemistry	
CHEM 445	Special Topics in Inorganic Chemistry	
CHEM 455	Special Topics in Analytical Chemistry	
CHEM 465	Special Topics in Biochemistry	
<i>Select one of the following:</i>		12
CHEM 429	Research in Organic Chemistry	
CHEM 439	Research in Physical Chemistry	
CHEM 449	Research in Inorganic Chemistry	
CHEM 459	Research in Analytical Chemistry	

CHEM 469 Research in Biochemistry

Select four courses from area of specialization (Organic, Inorganic, Physical, Analytical, Education) 12

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 (Biochemistry of Lipids)

CHEM 465 Special Topics in Biochemistry (Adv Approaches in Biochemistry)

CHEM 465 Special Topics in Biochemistry (Adv Enzyme Kinetics and Mechanisms)

CHEM 465 Special Topics in Biochemistry (Molecular Immunology)

CHEM 465 Special Topics in Biochemistry (Biochemistry 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 (Medicinal Inorganic Chemistry)

CHEM 445 Special Topics in Inorganic Chemistry (Electron & X-Ray Methods)

CHEM 445 Special Topics in Inorganic Chemistry (Molecular Characterization Part B)

Organic

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 (Func Dyes Biomed Imaging)

CHEM 425 Special Topics in Organic Chemistry (Avd 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 Chem)

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)	
CHEM 605	Master's Study	0
CHEM 595	Thesis Supervision	0
Total Hours		30

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.

Thesis Requirement

In addition to coursework, students in Thesis-based MS in Chemistry will write and defend a research thesis. Once students have completed coursework and are solely working on the thesis they will be enrolled in the appropriate study or supervision course to maintain good standing in the university.

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.