CHEMICAL SCIENCES, M.S.

Saint Louis University's Department of Chemistry (https://www.slu.edu/science-and-engineering/academics/chemistry/) offers a Master of Science in Chemical Sciences.

Program Highlights

- The M.S. in chemical sciences is a coursework, non-thesis degree.
- Many of SLU's graduate courses in chemistry are scheduled in the evening, allowing students to complete the degree part time.
- This flexibility allows students to tailor a program of study to suit their needs. For example, graduate courses in business and management, education, mathematics or other science disciplines may be included.
- Chemistry students at SLU have access to many research tools, including:
  - Bruker 400 and 700 MHz NMR spectrometers
  - Bruker-EMX EPR, UV-Vis and FTIR spectrometers
  - Research-grade spectrofluorometers
  - GC-MS and LC-MS
  - Electrochemical analyzers
  - Gas chromatographs
  - A scanning electron micrograph
  - Computational facilities with modern molecular software
  - A Bruker CCD X-ray diffractometer facility
- In addition to the M.S. in chemical sciences, SLU's Department of Chemistry (https://www.slu.edu/science-and-engineering/academics/chemistry/) also offers a full-time, research-based M.S. in chemistry (https://catalog.slu.edu/colleges-schools/science-engineering/chemistry/chemistry-ms/) which requires a thesis.

Curriculum Overview

The requirements for SLU's non-thesis M.S. degree in chemical sciences include a minimum of 30 credits of post-baccalaureate coursework and an oral examination.

Students who hold a bachelor's degree and are interested in completing SLU's doctoral program in chemistry (https://catalog.slu.edu/colleges-schools/science-engineering/chemistry/chemistry-phd/) can apply for admission to the Ph.D. program. A total of 39 credits are required, including 12 dissertation research credits. Students will develop an appropriate coursework track with a mentor that the graduate program director or the department chair will approve.

Graduate Handbook (https://www.slu.edu/science-and-engineering/academics/chemistry/student-resources/graduate-resources.php)

Careers

Possible careers for chemical sciences graduates include pharmaceutical scientist, crime lab analyst, environmental chemist, fuels and materials scientist and academic researcher.

Admission Requirements

Applicants should possess sufficient GPA and TOEFL (if applicable) scores and a bachelor's degree from an accredited college or university. Bachelor's degrees usually are in chemistry or biochemistry, although other science majors will be considered.

Admission typically requires a minimum of 18 semester credits (minimum 2.8 GPA) of upper-division undergraduate chemistry courses, including organic chemistry (two semesters), quantitative analysis (one semester) and physical chemistry (two semesters). Students who do not meet these criteria may complete these prerequisites as part of their graduate program, though not for graduate credit.

Students who have not completed equivalent coursework in upper-level undergraduate inorganic chemistry and instrumental analysis will also be required to complete these courses, but they can be taken for departmental graduate credit.

Application Requirements

- Application form
- Two letters of recommendation (three preferred)
- Résumé
- Goal statement
- Interview (desired)

Requirements for International Students

All admission policies and requirements for domestic students apply to international students, along with the following:

- Demonstrate English Language Proficiency (https://catalog.slu.edu/academic-policies/office-admission/graduate/english-language-proficiency/)
- Proof of financial support must include:
  - A letter of financial support from the person(s) or sponsoring agency funding the time at Saint Louis University
  - A letter from the sponsor's bank verifying that the funds are available and will be so for the duration of study at the University
- Academic records, in English translation, of students who have undertaken postsecondary studies outside the United States must include the courses taken and/or lectures attended, practical laboratory work, the maximum and minimum grades attainable, the grades earned or the results of all end-of-term examinations, and any honors or degrees received. WES and ECE transcripts are accepted.

Application Deadlines

Applications will be reviewed on a rolling basis with priority review given to applications received by Dec. 15 for the fall semester and by Sept. 1 for the spring semester.

Review Process

The Chemistry Graduate Committee votes on whether to admit, deny or waitlist applicants. Applicants on the waitlist may be offered admission in a future semester.

Tuition

Tuition	Cost Per Credit
Graduate Tuition	$1,400

Additional charges may apply. Other resources are listed below:

Net Price Calculator (https://www.slu.edu/financial-aid/tuition-and-costs/calculator.php)

Information on Tuition and Fees (https://catalog.slu.edu/academic-policies/student-financial-services/tuition/)

Miscellaneous Fees (https://catalog.slu.edu/academic-policies/student-financial-services/fees/)

Information on Summer Tuition (https://catalog.slu.edu/academic-policies/student-financial-services/tuition-summer/)

Scholarships, Assistantships and Financial Aid

For priority consideration for a graduate assistantship, apply by the program admission deadlines listed. Fellowships and assistantships provide a stipend and may include health insurance and a tuition scholarship for the duration of the award.

Explore Scholarships and Financial Aid Options (https://www.slu.edu/financial-aid/types-of-aid/)

Learning Outcomes

1. Graduates will be able to demonstrate advanced level knowledge in both a) synthesis and materials chemistry and b) analytical and physical chemistry methods, with a higher level of knowledge expected in the student's area of focus.
2. Graduates will be able to use standard search tools and retrieval methods to obtain information about a topic, substance, technique or issue relating to chemistry, and assess relevant studies from the chemical literature.
3. Graduates will be able to communicate scientific findings from literature in writing and oral presentations.
4. Graduates will be able to apply learned chemical practices and theories to proposed problems.
5. Graduates will be able to adhere to accepted ethical and professional standards in chemistry.

Requirements

Grades of C and below are not considered passing and require repeating or replacement with another grad level course, achieving a grade of B- or better.

Code	Title	Credits
Graduate Chemistry Courses		**15**
Select five Graduate Chemistry Courses (p. 2)		
Chemistry Elective Courses		**15**
15 hours of elective graduate coursework at the -5000 or -6000 level. Electives can be fulfilled by taking graduate course work in chemistry or in other disciplines such as biology, math, computer science, engineering, and pharmacology with approval by Graduate Program Coordinator. No more than 6 hours in research topics (CHEM-5970) or graduate reading (CHEM-5980) may be applied towards the Chemistry Electives Requirement.		
Total Credits		**30**

Graduate Chemistry Courses

Code	Title	Credits
CHEM 5200	Analytical Chemistry II	3
CHEM 5230	Mass Spectrometry	3
CHEM 5260	Analytical Separations	3
CHEM 5270	Electroanalytical Chemistry	3
CHEM 5300	Mathematical Techniques in Chemistry	3
CHEM 5370	Computational Chemistry	3
CHEM 5390	Special Topics: Physical Chemistry	3
CHEM 5400	Organic Spectroscopy	3
CHEM 5410	Organic Chemistry 3	3
CHEM 5440	Bioorganic Chemistry	3
CHEM 5450	Advanced Organic Chemistry	3
CHEM 5460	Synthetic Organic Chemistry	3
CHEM 5470	Medicinal Chemistry	3
CHEM 5500	Inorganic Chemistry	3
CHEM 5550	Organometallic Chemistry	3
CHEM 5560	Solid State Chemistry	3
CHEM 5570	Group Theory & Spectroscopy	3
CHEM 5610	Biochemistry 1	3
CHEM 5615	Biochemistry 2	3
CHEM 5620	Biophysical Chemistry	3
CHEM 5630	Introduction to Chemical Biology and Biotechnology	3
CHEM 5800	Fundamentals and Design of Nanomaterials	3

Non-Course Requirements

Exit interview.

Continuation Standards

Students must maintain a cumulative grade point average (GPA) of 3.00 in all graduate/professional courses. Grades of C and below are not considered passing and require repeating or replacement with another grad level course, achieving a grade of B- or better.

Roadmap

Roadmaps are recommended semester-by-semester plans of study for programs and assume full-time enrollment unless otherwise noted.

Courses and milestones designated as critical (marked with !) must be completed in the semester listed to ensure a timely graduation. Transfer credit may change the roadmap.

This roadmap should not be used in the place of regular academic advising appointments. All students are encouraged to meet with their advisor/mentor each semester. Requirements, course availability and sequencing are subject to change.

Course	Title	Credits
Year One		
Fall		
Chemistry Course		3
Chemistry Course		3
	Credits	**6**
Spring		
Chemistry Course		3
Chemistry Course		3
	Credits	**6**
Summer		
CHEM 5970	Research Topics	3
	Credits	**3**

Year Two	
Fall	
Chemistry electives	3-6
Credits	**3-6**
Spring	
Chemistry electives	3-6
Credits	**3-6**
Summer	
Research Elective	3
Credits	**3**
Year Three	
Fall	
Chemistry electives	3-0
Credits	**3-0**
Spring	
Chemistry electives	3-0
Credits	**3-0**
Total Credits	**30**

Program Notes

Students in the coursework Chemical Sciences, M.S., program commonly take one to three courses a semester, which means the timeline will vary for each student.

Contact Us

For additional information about our program, please contact:

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