

Chemistry: Chemistry Option

Bachelor of Arts (BA)

Chemistry Option

Chemistry is the branch of natural science that deals with the properties and classification of matter, the changes that matter undergoes, and the energy associated with these changes. Research by chemists increases our knowledge about chemicals and their roles in the natural world, and has led to the discovery and development of new and improved products and advances in medicine, agriculture, food processing and other fields. If you are interested in a rewarding career that provides financial security, promotes self-respect and gives you the opportunity to work on stimulating and breakthrough projects, then a career in chemistry may be right for you.

This degree option offers a broad exposure to chemistry and requires a minor. Students interested in pursuing careers that use chemistry, such as patent law, technical sales, and environmental testing should choose this major.

Chemistry students will...

- Gain a rigorous foundation in chemistry, science, and math in the context of a broad university education.
- Interact closely with experienced faculty in and out of the classroom who are recognized for their writing, training, professional affiliations, and expertise.
- Study in the state-of-the-art, first-rate learning environment provided by the newly renovated Magill Hall of Science.
- Have opportunities to pursue research and scholarship that develop independent thinking and problem solving.
- Have employment opportunities within the department that can provide chemistry-related work experience prior to graduation.

Career Planning

Career preparation is part of the mission of Southeast. In fact, more than 90% of Southeast students participate in internships, clinical opportunities, student teaching, research assistantships, and study abroad. Approximately 35-40% of chemistry graduates pursue graduate or professional study immediately upon graduation. Employment opportunities for chemists exist in a variety of fields, such as biotechnology, chemical manufacturing, environmental monitoring and compliance, industrial hygiene, materials science, pharmaceutical manufacturing, product development, quality control, sales (pharmaceuticals, chemicals, instruments), and technical management.

Professional career counselors are available for all students. The Office of Career Services in Academic Hall 057 can provide students with professional career counseling, resume critiques, practice interviews, job search strategies, career events, networking opportunities, and more.

Internships, Employment Opportunities, Graduate Schools and Programs of Recent Graduates

- Biokyowa
- Buzzi Unicem USA
- Eli Lilly
- Exxon Mobil
- Monsanto
- Pharmacia (currently part of Pfizer)
- PPG Industries
- Proctor and Gamble
- Sigma-Aldrich
- Missouri State Highway Patrol Crime laboratory
- Indiana University
- John Hopkins University
- Penn State University
- Purdue University
- Southern Illinois University (School of Medicine)
- Texas A & M
- University of Illinois (School of Medicine, Graduate School)
- University of Missouri (School of Medicine, Graduate School)
- University of Notre Dame
- University of Wisconsin – Madison
- Washington University
- Numerous other graduate/professional programs of study and employers

Transfer and Dual Credit Students

If you have dual credit or transfer credit, please visit our transfer course equivalencies guide at semo.edu/transfercredit.

To learn more
 Office of Admissions
 (573) 651-2590
admissions@semo.edu
semo.edu

To explore
 the College of Science,
 Technology, Engineering and
 Mathematics online, visit
semo.edu/stem

For advising
 Center for Academic Advising
semo.edu/advising

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This is a guide based on the 2018-2019 Undergraduate Bulletin and is subject to change. The time it takes to earn a degree will vary based on several factors such as dual enrollment, remediation, and summer enrollment. Students will meet with an academic advisor each semester and use Degree Works to monitor their individual progress.

CURRICULUM CHECKLIST

"Critical Courses" are italicized and bolded. Data shows that students who have completed this course in the first two years and have earned the noted grade are most likely to complete this program of study.

Chemistry: Chemistry option – minor required

Chemistry Required Courses:

- ___ *CH185 General Chemistry (5)*
- ___ *CH186 Foundations of Inorganic Chemistry (3)*
- ___ CH187 Inorganic Chemistry and Qualitative Analysis Laboratory (2)
- ___ CH271 Foundations of Analytical Chemistry (5)
- ___ CH306 Survey of Physical Chemistry (3)
- ___ CH313 Physical Chemistry Laboratory (3)
- ___ *CH340 Essentials of Organic Chemistry (5)*
- ___ CH498 Professional Presentation in Chemistry (1)
- ___ CH531 Foundations of Biochemistry (3)
- OR
- ___ UI331 Foundations of Biochemistry (3)
- ___ CH533 Biochemistry Laboratory (2)
- ___ UI443 Professional Experience in Chemistry (3)

Additional Requirements – 13 Hours Required

- ___ MA139 Applied Calculus (3)
- ___ PH120/020 Introductory Physics I (5)
- ___ PH121/021 Introductory Physics II (5)

Note: Completion of an experiential learning project (undergraduate research or internship) in the major is required. The departmental advisor should be consulted for information about this requirement.

Minor required for this option – 15-21 Hours

University Studies Requirements – some requirements may be fulfilled by coursework in major program

- Social and Behavioral Sciences – 3 hours
- Constitution requirement – 3 hours
- US History requirement – 3 hours
- Written Communication – 6 hours
- Oral Communication – 3 hours
- Natural Sciences – 7 hours (from two disciplines, one to include a lab)
- Mathematics – 3 hours
- Humanities & Fine Arts – 9 hours (from at least two disciplines)
- Additional requirements – 5 hours (to include UI100 for native students)

NOTE: This option is ideally suited to those who wish to double major.

SAMPLE FOUR-YEAR PLAN

	Fall Semester		Spring Semester	
	Course #	Hrs	Course #	Hrs
FIRST YEAR	UI100	3	CH186	3
	EN100	3	CH187	2
	CH185/085/005	5	Minor Course	3
	MA139	3	University Studies	3
			University Studies	3
	Total	14	Total	14
Milestone: maintain 2.0 cumulative GPA				
SECOND YEAR	CH271	5	PH121/021	5
	CH340	5	Minor Course	3
	PH120/020	5	University Studies	3
			University Studies	3
			University Studies	3
	Total	15	Total	17
Milestone: maintain 2.0 cumulative GPA				
<i>(summer courses are encouraged to avoid 18 hour semesters)</i>				
THIRD YEAR	CH306	3	UI443	3
	CH313	3	IU/UI3XX	3
	University Studies	3	Minor Course	3
	University Studies	3	Minor Course	3
	University Studies	3	Elective	3
	Total	15	Total	15
Milestone: maintain 2.0 cumulative GPA				
FOURTH YEAR	CH531 or UI331	3	CH498	1
	University Studies	3	CH533	2
	University Studies	3	Minor Course	3
	Minor Course	3	Electives	9
	Elective	3		
	Total	15	Total	15
Milestone: maintain 2.0 cumulative GPA				

A "Milestone" signifies a significant stage for a student in the completion of a degree.

Degree requirements for all students: a minimum of 120 credit hours, completion of University Studies program, Writing Proficiency Exam (WP003), and completion of the Measure of Academic Proficiency and Progress (MAP) at the senior level.

A minimum 2.0 GPA in the major and overall are required to graduate with a BA in Chemistry degree.

Refer to the Undergraduate Bulletin or DegreeWorks for additional graduation requirements (i.e. minimum GPA and coursework) for your program of study.

Revised
7/10/2018