

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.

| Demonstrated Career Proficiency is a Requirement of all Southeast Students | | |
|--|----------------|---|
| CL001/CL002 | First Semester | Complete the FOCUS2 assessment and develop a Career Action Plan. |
| CL003 | Junior Year | Students gain information about career planning and job searching resources. |
| CL004 | Senior Year | Students demonstrate advanced proficiency by identifying a position in their field, developing a cover letter, and tailoring a resume for the position. Materials are critiqued to ensure preparedness for a successful job search. |

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
- Procter 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

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

To explore the College of Science, Technology, and Agriculture online, visit
www.semo.edu/costa

For advising
Center for Academic Advising - North
(573) 651-5090
www.semo.edu/advising
advisingnorth@semo.edu

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This is a guide based on the 2017-2018 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 DegreeWorks 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 (not already listed above):**

UI100 First Year Seminar, EN100 English Composition, Artistic Expression, Written Expression, Oral Expression, Literary Expression, Behavioral Systems, Living Systems, Development of a Major Civilization, Economic Systems, Political Systems, Social Systems, and one IU/UI3XX*

* Note: Two IU/UI3XX courses are required if CH531 Foundations of Biochemistry is taken rather than UI331 Foundations of Biochemistry.

SAMPLE FOUR-YEAR PLAN

| | Fall Semester | | Spring Semester | |
|---|------------------------|-----------|---------------------|-----------|
| | Course # | Hrs | Course # | Hrs |
| FIRST YEAR | UI100 | 3 | <i>CH186</i> | 3 |
| | EN100 | 3 | CH187 | 2 |
| | <i>CH185/085/005</i> | 5 | Minor Course | 3 |
| | <i>MA139</i> | 3 | Social Systems | 3 |
| | | | Written Expression | 3 |
| | Total | 14 | Total | 14 |
| Milestone: maintain 2.0 cumulative GPA | | | | |
| SECOND YEAR | CH271 | 5 | PH121/021 | 5 |
| | <i>CH340</i> | 5 | Minor Course | 3 |
| | PH120/020 | 5 | Artistic Expression | 3 |
| | | | Economic Systems | 3 |
| | | | Oral Expression | 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 |
| | Behavioral Systems | 3 | Minor Course | 3 |
| | Living Systems | 3 | Minor Course | 3 |
| | Political Systems | 3 | Elective | 3 |
| | Total | 15 | Total | 15 |
| Milestone: maintain 2.0 cumulative GPA | | | | |
| FOURTH YEAR | CH531 or UI331 | 3 | CH498 | 1 |
| | Develop of a Major Civ | 3 | CH533 | 2 |
| | Literary Expression | 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, career proficiencies (CL001-004), Writing Proficiency Exam (WP003), and completion of the Measure of Academic Proficiency and Progress (MAPP) 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
10/6/2017