

Undergraduate Biochemistry

Degrees Available at SIUE

- Bachelor of Science, Chemistry, Biochemistry Specialization

Other Degrees Available

- Bachelor of Arts
 - Medical Science Specialization
- Bachelor of Science
 - ACS Certified Biochemistry Specialization
 - ACS Certified Chemistry Specialization
 - Forensics Chemistry Specialization
- Teacher Licensure - Grades 6-12

Biochemistry at SIUE

The biochemistry specialization at SIUE prepares students for successful employment in the St. Louis metropolitan area and across the United States. Faculty members in the Department of Chemistry have research interests that cover all the traditional areas of chemistry. However, there is strong representation among biochemistry-related fields. The biochemistry specialization at SIUE is also compatible with the two-year pre-pharmacy curriculum allowing our students flexibility in their career choices.

Career Opportunities

In the past decade, there has been, and continues to be, demand for capable graduates in fields such as biotechnology, medicinal and pharmaceutical chemistry, as well as industry and academic and government settings. The Department of Chemistry is contacted regularly by companies seeking new SIUE graduates.

The St. Louis area is a biotechnology hub, which supports many large chemical, biochemical and pharmaceutical companies that employ SIUE graduates. The biochemistry program at SIUE includes advanced courses and lab experiences in biochemistry, biophysical chemistry, analytical chemistry and bioinorganic chemistry which allow our graduates to pursue employment in fields ranging from research, development, and quality control to lab support, manufacturing and many others.

Hands-On Learning

Potential employers and graduate schools show great interest in student participation in research, regular interaction with experts in the field and hands-on experience. At SIUE, the Department of Chemistry blends traditional coursework with research opportunities. In 2013, the Department of Chemistry moved into a new building that features state-of-the-art teaching and research labs with equipment that rivals what is available at PhD-granting institutions.

Our students are encouraged to begin their research experiences early in their academic career in order to get as much hands-on experience as possible. With support from the Sigma-Aldrich® Corporation, the advanced Biochemistry Instruction Laboratory has been established. This Laboratory features state-of-the-art methods including equipment for isothermal titration calorimetry and differential scanning calorimetry. Through undergraduate work in this laboratory, biochemistry majors at SIUE gain the hands-on experience desired by future employers. The top-performing students have been recognized for excellence in research through internal awards and with co-authorship in publications.

Global Experience

The Department of Chemistry is made up of students and faculty from many countries such as Canada, China, Ghana, India, Iran, Italy, Nepal, Taiwan, the United States and others. International collaboration is common, and can yield student travel opportunities, including study abroad.

SIUE

College of Arts and Sciences
Department of Chemistry

Faculty

Cristina De Meo, PhD
2001, University of Georgia

Robert P. Dixon, PhD
1993, University of Pittsburgh

Jie Dong, PhD
2014, The Ohio State University

Michael Hankins, PhD
2017, Saint Louis University

Myron W. Jones, PhD
2010, University of Oklahoma

Yun Lu, PhD
1996, Nankai University

Sarah B. Luesse, PhD
2004, Indiana University

Edward Navarre, PhD
2002, University of Vermont

Leah O'Brien, PhD
1987, University of Arizona

Monica Rieth, PhD
2014, Lehigh University

Michael Shaw, PhD
1993, University of British Columbia

Mina Sumita, PhD
2006, Wayne State University

Kevin Tucker, PhD
2011, University of Illinois

Eric Voss, PhD
1992, Northwestern University

Chin-Chuan Wei, PhD
1998, City University of New York

Susan D. Wiediger, PhD
1999, Rice University



SOUTHERN ILLINOIS UNIVERSITY
EDWARDSVILLE

COLLEGE OF ARTS & SCIENCES

Sample Curriculum for the Bachelor of Science in Chemistry, Biochemistry

Fall Semester

Spring Semester

	Fall Semester	Spring Semester
Year 1	CHEM 121A General Chemistry (BPS) 4	BIOL 150 Intro to Biological Sciences I (BLS, EL) 4
	CHEM 125A General Chemistry Lab (EL) 1	CHEM 121B General Chemistry (BPS) 4
	ENG 101 English Composition I 3	CHEM 125B General Chemistry Lab (EL) 1
	RA 101 Reasoning and Argumentation 3	ENG 102 English Composition II 3
	ACS 101 Public Speaking 3	MATH 145 or MATH 150 Calculus (FQR) 5
	FST 101 Succeeding & Engaging at SIUE 1	Total Credits 17
	Total Credits 15	
Year 2	BIOL 151 Intro to Biological Sciences II (BLS, EL) 4	CHEM 241B Organic Chemistry (BPS) 3
	CHEM 241A Organic Chemistry 3	CHEM 245 Organic Chemistry Lab (EL) 2
	PHYS 131 College Physics I: Mechanics & Heat 4	Health Experience (EH) 2
	PHYS 131L College Physics I Lab 1	PHYS 132 College Phys II: Electricity, Magnetism & Optics 4
	Breadth Social Sciences (BSS)/Experience Global Culture (EGC) 3	PHYS 132L College Physics II Lab 1
	Total Credits 15	Experience United States Cultures (EUSC) 3
		Total Credits 15
Year 3	BIOL 220 Genetics (BLS, EL) 4	BIOL 319 Cell & Molecular Biology 4
	CHEM 300 Professionalism 1	CHEM 451B Biochemistry 3
	CHEM 331 Quant Analytical Chemistry 3	CHEM 455 Biochemistry Lab 2
	CHEM 335 Quant Analytical Chemistry Lab 1	STAT 244 Statistics (BICS) 4
	CHEM 451A Biochemistry 3	Breadth Fine & Performing Arts (BFPA) 3
	Interdisciplinary Studies (IS) 3	Total Credits 16
	Total Credits 15	
Year 4	CHEM 410 Bio-Inorganic Chemistry 3	CHEM 461B BioPhysical Chemistry II 3
	CHEM 451C Biochemistry 3	CHEM 431 Instrumental Analysis 3
	CHEM 461A BioPhysical Chemistry 3	CHEM 435 Instrumental Analysis Lab 1
	CHEM 465 BioPhysical Chemistry Lab 2	CHEM 499 Senior Assignment 0
	CHEM Elective 4	CHEM Elective (recommended) 2
	Total Credits 15	Breadth Humanities (BHUM) 3
		Total Credits 12
	Total Hours 120	

Transfer Students: To maximize your transfer experience, complete the **bolded** courses/requirements pre-transfer and satisfy either the Illinois Articulation Initiative (IAI) General Ed Core or receive an AA, AS, or AAT (early childhood, special ed or math) degree from an IAI community college. If 'Minor' requirements are shown, discuss careful course selection with the academic advising contact listed. Visit siue.edu/transfer to find course equivalency guides.

Admission Requirements

High school students who plan to major in one of the degree programs in chemistry should complete at least three years of college preparatory mathematics (two years of algebra and one of geometry) before entering the University. A fourth year of college preparatory mathematics (to include trigonometry) and one year each of biology, chemistry, and physics are strongly recommended.

Admission to a degree program in chemistry requires an application for a major and acceptance by the department. Once admitted, students are formally affiliated with the Department of Chemistry and assigned a professional academic advisor. Advisement is mandatory; majors are permitted to register each term only after meeting with their academic advisor. Because the study of science is progressive, students are encouraged to select their major field of study early in their academic careers to ensure orderly progress toward meeting degree requirements. To be admitted, students already enrolled in the University must have a minimum GPA of 2.4 in science and mathematics courses completed, and a cumulative GPA of 2.5 or higher in all courses taken at SIUE and successfully completed CHEM 121A with a C or better. Transfer students should have a 2.6 GPA in science and mathematics courses, and a 2.5 average in courses taken at other colleges and universities. Students who do not meet the GPA requirements may be provisionally accepted and will receive advisement.

Graduation Requirements

The following requirements must be met in order to obtain a degree in chemistry:

- Earn a minimum of 120 hours (129 for chemistry, teacher licensure) of acceptable credit with a cumulative GPA of 2.0 or higher
- Complete at least 12 hours of SIUE credit in major courses numbered above 299 with a cumulative GPA of 2.0 or above
- Earn a GPA of 2.0 or above in all major courses numbered above 299
- Complete at least six hours of SIUE credit in major courses numbered above 299 within two years preceding graduation

No more than eight semester hours of D grades in any combination of science or mathematics courses may be counted toward a major in chemistry.

Credit hours earned through proficiency, transfer, CLEP or from a course, after credit has been received for similar or more advanced coursework in the same subject at SIUE or elsewhere, may not be applied toward graduation requirements.

Students admitted to a health professions school at the end of their junior year may transfer appropriate health professions school credits to complete the requirements for a degree in chemistry from SIUE.

Contact Information

Department of Chemistry
College of Arts and Sciences
Phone: 618-650-2042