

**Degrees Available at SIUE**

- Bachelor of Science in 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, housed in the Department of Chemistry in the College of Arts and Sciences, 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.

**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

**Nahid Shabestary, PhD**

1984, Michigan State 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



# Sample Four-Year Curriculum

## Fall Semester

## Spring Semester

	Fall Semester	Spring Semester
<b>Year 1</b>	<b>CHEM 121a</b> General Chemistry (BPS) 4 <b>CHEM 125a</b> General Chemistry Lab (EL) 1 ENG 101 Composition 3 RA 101 Reasoning and Argumentation 3 ACS 103 Interpersonal Communication (EUSC) 3 Elective 2 Total Credits 16	<b>BIOL 151</b> Intro to Biological Sciences I (BLS, EL) 4 <b>CHEM 121b</b> General Chemistry (BPS) 4 <b>CHEM 125b</b> General Chemistry Lab (EL) 1 ENG 102 Composition 3 <b>MATH 145 or 150</b> Mathematics Requirement 5 Total Credits 17
<b>Year 2</b>	<b>BIOL 151</b> Intro to Biological Sciences II (BLS, EL) 4 <b>CHEM 241a</b> Organic Chemistry 3 <b>PHYS 131</b> College Physics I: Mechanics & Heat 4 <b>PHYS 131L</b> College Physics I Lab 1 Breadth Social Sciences (BSS)/Experience Global Culture (EGC) 3 Total Credits 15	<b>CHEM 241b</b> Organic Chemistry (BPS) 3 <b>CHEM 245</b> Organic Chemistry Lab (EL) 2 Health Experience (EH) 3 <b>PHYS 132</b> College Phys II: Electricity, Magnetism & Optics 4 <b>PHYS 132L</b> College Physics II Lab 1 Elective 3 Total Credits 16
<b>Year 3</b>	<b>BIOL 220</b> Genetics (BLS, EL) 4 CHEM 300 Professionalism 1 CHEM 331 Quant Analytical Chemistry 3 CHEM 335 QUANT Analytical Chemistry Lab 1 CHEM 451a Biochemistry 3 Interdisciplinary Studies (IS) 3 Total Credits 15	BIOL 319 Cell & Molecular Biology 4 CHEM 451b Biochemistry 3 CHEM 455 Biochemistry Lab 2 <b>STAT 244</b> Statistics (BICS) 4 Breadth Fine & Performing Arts Breadth (BFPA) 3 Total Credits 16
<b>Year 4</b>	CHEM 410 Bio-Inorganic Chemistry 3 CHEM 451c Biochemistry 3 CHEM 461a BioPhysical Chemistry 3 CHEM 465 BioPhysical Chemistry Lab 2 CHEM Elective 2 Total Credits 13	CHEM 461b BioPhysical Chemistry II 3 CHEM 431 Instrumental Analysis 3 CHEM 431 Instrumental Analysis 1 CHEM 499 Senior Assignment 0 CHEM Elective 2 Breadth Humanities (BHUM) 3 Total Credits 12

**NOTES** – Bachelor of Arts requires completion of eight (8) courses in fine and performing arts or humanities, including two (2) semesters of the same foreign language. Bachelor of Science requires completion of eight (8) lecture courses in life, physical or social science, including two (2) lecture courses with labs (EL). Check the Course Equivalency Guides (CEG) at [siue.edu/transfer](http://siue.edu/transfer) for approved courses.

**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. Transfer Credit Equivalency Guides are located at [siue.edu/transfer](http://siue.edu/transfer).

## Admission Requirements

Students must meet all University admission requirements and the following additional department requirements:

- No less than three (3) years of college preparatory mathematics (two (2) years of Algebra and one (1) year of Geometry) before entering the University. A fourth year of college preparatory mathematics (to include trigonometry) and one (1) 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.

Students already enrolled in the University must have:

- Minimum grade point average (GPA) of 2.4 on a 4.0 scale in completed science and mathematics courses.
- Cumulative GPA of 2.5 or higher on a 4.0 scale in all courses taken at SIUE.
- Successful completion of CHEM 121a with a grade of C or better.

## 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 Secondary Education with Certification) of acceptable credit with a cumulative grade point average (GPA) of 2.0 or higher on a 4.0 scale.

- Complete at least 12 hours of SIUE credit in major courses numbered above 299 with a cumulative GPA of 2.0 or above on a 4.0 scale.
- Earn a GPA of 2.0 or above on a 4.0 scale in all major courses numbered above 299.
- Complete at least six (6) hours of SIUE credit in major courses numbered above 299 within two (2) years preceding graduation.

## Notes

- No more than eight (8) 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, College Level Examination Program (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