BIOCHEMISTRY

Biochemistry is a rigorous STEM discipline that emphasizes application of knowledge and the use of analytical tools to solve real world problems in the health professions.

The Biochemistry curriculum is designed to prepare students for the biomedical sciences and/or health professions through a strong background in chemistry and its application to biological systems. The degree, hosted by the Chemistry Department, prepares students to immediately begin careers in biotechnology and meets or exceeds the requirements for those students pursuing a professional degree, e.g. medicine, dentistry, and pharmacy as well as those interested in graduate work in associated sciences, e.g. biochemistry, pharmacology, and molecular biology.

Bachelor’s Degree
- Bachelor of Science (B.S.)

Career Paths
Graduate studies in Medicine, Veterinary Science, Dentistry, Pharmacy, and other health professions.
- Biochemist
- Biophysicist
- Agricultural and Food Scientist
- Biological Technician
- Biomedical Engineer
- Chemist
- Chemical Technician
- Materials Scientist
- Microbiologist
- Natural Sciences Manager
- Zoologist
- Wildlife Biologist

Distinction
- A collaboration with Southern Illinois University School of Medicine, located in Springfield, provides UIS biochemistry students with research opportunities in Pharmacology and other departments at the medical school. UIS has an agreement with SIU that allows students to earn UIS credit for research performed at their facilities, fulfilling in part, the Biochemistry degree's research requirement.
- The MCAT (entry exam for medical school) has adopted a strong biochemistry emphasis and other professional health programs are following that example. Students interested in pre-med will have a distinct academic advantage, as course work is based upon competencies expected of medical school applicants established by the American Association of Medical Colleges.

www.uis.edu/biochemistry/
Bachelor’s Degree

PROGRAM HIGHLIGHTS

Building competencies. A B.S. Biochemist who earned his or her degree from UIS will be characterized as being able to:

• Integrate chemical knowledge with biological knowledge
• Be proficient in appropriate laboratory skills
• Communicate scientific information
• Apply the scientific process
• Participate in the biochemistry profession

Undergraduate research. Because of our emphasis on experiential learning, all biochemistry majors are required to complete three hours of capstone research but are encouraged to seek out additional opportunities to conduct research with faculty. It is UIS’ position that the research requirement provides a higher degree of academic rigor than additional upper-division requirements and electives.

Opportunity. Springfield is the hub of the Mid-Illinois Medical District and area hospitals serve over 2-million people every year. UIS has a strong commitment to serve that health industry, providing graduates preparation to assume practitioner, technical, and support positions. Besides the hiring opportunities, UIS students in biochemistry are well positioned to secure internships while earning their degrees.

B.S. IN BIOCHEMISTRY

Complete university requirements – a minimum of 7 credit hours of Engaged Citizenship Common Experience (ECCE) courses.
Complete Biochemistry prerequisites (36 credit hours).
Complete college core requirements (25 credit hours).
Complete upper division Chemistry elective (3 credit hours).
Complete upper division Biology electives (6 credit hours).
Complete general electives (9 credit hours).
Minimum total of 120 credit hours, including 34 credit hours of general education courses.

Sample of Courses:

General Chemistry I & II
Biology of Organisms in the Environment
Organic Chemistry I & II
Calculus I & II
University Physics I & II
Chemical Analysis
Physical Chemistry I - Thermodynamics
Advanced Biochemistry
Bioanalytical Chemistry
Medicinal Chemistry
Genetics

RESEARCH SYMPOSIUM

Research, publish, and present. Each spring semester, UIS hosts the two-day STARS (Student Technology, Arts & Research Symposium), an opportunity for students doing research or creative works with a professor(s), to present their work and/or collaborations to a broad audience. Students are strongly encouraged to participate and submit a faculty-approved abstract in the fall to secure a spot. Students can elect to give a short oral presentation, a poster presentation of research, a performance, or an exhibition of their creative work.

For a complete list of courses and degree requirements, see the UIS catalog at www.uis.edu/uiscatalog/

IMPORTANT! Information effective Fall 2016. Subject to change without notice. The information does not constitute a contract between the student and UIS. See www.uis.edu/uiscatalog/ for current program requirements.