Biochemistry

Biochemistry deals with the chemistry of life and uses the techniques of analytical, organic, and physical chemistry, as well as those of molecular and structural biology. A degree in biochemistry prepares a student for many fields beyond biochemistry or biomedical sciences. It provides the basis for many applied fields including biotechnology, genetic engineering, molecular genetics, immunology, pharmacology, toxicology and forensic science. A Bachelor of Science degree in biochemistry is an ideal preparation for a career or graduate study in these applied fields. A biochemistry degree is also potentially useful for students interested in business, law, journalism or technical writing related to the life sciences. Undergraduate research experiences are readily available under the supervision of a faculty advisor. Students are encouraged to meet with an undergraduate advisor to design a curriculum focused on their career goals.

Pre-professional students and those interested in biological chemistry are ideally suited for the Biochemistry major.

All science majors require proficiency in mathematics, which is prerequisite for upper level course work in biochemistry. Students are encouraged to enroll in the highest level of mathematics appropriate to their background within the first semester. All students are expected to show proficiency in biochemistry prerequisites that are biochemistry/chemistry courses with a grade of C- or better, or obtain consent of the instructor for enrollment in the subsequent biochemistry/chemistry course. For biochemistry majors, a grade of C- or better is needed in every chemistry introductory course and in every chemistry/biochemistry foundation course to be eligible for graduation. A minimum grade point average of 2.0 in biochemistry course work is needed for a student to receive the B.S. degree in Biochemistry. A student cannot repeat a course or its equivalent in which a grade of B or better was earned without the consent of the program or offering school.

Students wishing more detailed information should visit our website at chem.siu.edu or contact an undergraduate advisor at the School of Chemical and Biomolecular Sciences, Neckers Hall, Rm. 224 - Mail Code 4409, Southern Illinois University Carbondale, Carbondale, Illinois 62901.

Bachelor of Science (B.S.) in Biochemistry Degree Requirements

Degree Requirements	Credit Hours
University Core Curriculum Requirements [1]	39
Biochemistry Major Requirements [2]	75-76
Supportive Skills- CS 201 or CS 202; ENGL 290 or ENGL 291 or ENGL 391; MATH 282 or MATH 483	6
CHEM 200 or CHEM 205 or CHEM 205H, CHEM 201, CHEM 202 or CHEM 207 or CHEM 207H, CHEM 210 or CHEM 215 or CHEM 215H, CHEM 211, CHEM 212 or CHEM 217 or CHEM 217H (3 hours included in the UCC Physical Science hours)	7
CHEM 311, CHEM 330, CHEM 340, CHEM 341, CHEM 350/BCHM 350, BCHM 351/CHEM 351, CHEM 360, CHEM 361	22
MATH 150, MATH 250 (3 hours included in the UCC Mathematics hours)	5

Degree Requirements	Credit Hours
MATH 221 or MATH 251 or MATH 305 or MATH 483	3-4
PHYS 205A, PHYS 255A, PHYS 205B, PHYS 255B	8
CHEM 442, CHEM 443	5
BCHM 452/CHEM 452, BCHM 453/CHEM 453	5
BIOL 305, BIOL 306	6
Six credit hours from the following: PHSL 310, MICR 302, MICR 403, MICR 421, PLB 475, BCHM 451B/CHEM 451B, MBMB 453, PLB 471	6
General Electives	7-8
Total	120

[1] *A total of nine hours of biological science, mathematics, and physical science course work are accounted for in the 39-hour University Core Curriculum requirement. An additional two hours of human health are accounted for if students choose PHSL 310 as part of the Biochemistry.*

[2] *A total of three hours of biological sciences are completed with biological chemistry or biochemistry. CHEM 451A/BCHM 451A may substitute for CHEM 350/BCHM 350, if a student continues with CHEM 451B/BCHM 451B. Prerequisite is MATH 106, MATH 111 or MATH 108 and MATH 109. The elective hours are decreased by three to six hours for students who place into a course lower than calculus.*

Transfer Credit

Credit for a course in Biochemistry successfully completed at another accredited institution will be accepted to meet major or minor requirements in Biochemistry at SIU, subject to the following conditions:

1. The course number must bear a program prefix clearly indicating the course is a Biochemistry course.
2. The course must have covered substantially the same material as a course currently offered at SIU to meet major requirements.
3. Any course used to meet major or minor requirements in chemistry must be explicitly approved by the School of Chemical and Biomolecular Sciences.

Technology Fee

The College of Agricultural, Life, and Physical Sciences assesses undergraduate majors a technology fee of $4.58 per credit hour up to 12 credit hours. The fee is charged Fall and Spring semester.

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