

Bachelor of Science in Biochemistry

The degree of Bachelor of Science in Biochemistry is intended to prepare students for professional careers as biochemists, either upon graduation or after graduate study in biochemistry or related fields. In addition, it may serve as the basis for work in biotechnology, computational biology, biomaterials, forensics, biomedical research, pharmaceuticals, patent law, biotechnology/biomedical business, health professions, or environmental science. The Honors Option is intended to prepare students for academic or research careers.

Students who plan to follow Option III, Biochemistry Honors, must be admitted to the [Dean's Scholars Honors Program](#).

Prescribed Work Common to all Options

In the process of fulfilling degree requirements, all students must complete:

- a. Core curriculum
- b. Skills and experience flags:
 - a. Writing: two flagged courses beyond Rhetoric and Writing 306 or its equivalent, including one at the upper-division level
 - b. Quantitative reasoning: one flagged course
 - c. Global cultures: one flagged course
 - d. Cultural diversity in the United States: one flagged course
 - e. Ethics: one flagged course
 - f. Independent inquiry: one flagged course

Courses that may be used to fulfill flag requirements are identified in the [Course Schedule](#). They may be used simultaneously to fulfill other requirements, unless otherwise specified. Please note, students may not earn the cultural diversity in the United States and the global cultures flags from the same course. Students are encouraged to discuss options with their academic advisors.

3. At least 36 semester hours of upper-division coursework
4. At least 21 semester hours of upper-division coursework, including at least 12 semester hours of upper-division coursework in chemistry, must be completed in residence at the University

Additional Prescribed Work for Each Option

Option I: Biochemistry

5. Mathematics 408C and 408D, or 408N, 408S, and 408M
6. Biostatistics: Statistics and Data Sciences 320E
7. One of the following sequences:
 - a. Physics 317K, 105M, 317L, and 105N (recommended);
 - b. Physics 303K, 105M, 303L, and 105N; or
 - c. Physics 301, 101L, 316, and 116L
8. The following chemistry courses:
 - a. General chemistry: Chemistry 301 or 301C; 302 or 302C; and 104M & 104N, 204, or 317
 - b. Organic chemistry: Chemistry 320M
 - c. Biochemistry: Biochemistry 219L, 339F, 339J, 339M, 339N and 370
 - d. Physical chemistry: Chemistry 353 or 353M
 - e. Analytical chemistry: Chemistry 455
9. One of the following sequences:

- a. Biology 311C, 311D, and 325; or
 - b. Biology 315H and 325H
10. Biology 344
 11. Three hours of a capstone experience (for example Biochemistry 369K, 379H, 369L or a course/experience approved by the Capstone Advisor), Biochemistry 175C, and completion of one of the following:
 - i. Fifteen additional semester hours of upper-division biochemistry, biology, chemistry, and neuroscience; or
 - ii. A transcript-recognized certificate or a transcript-recognized minor
 12. Enough additional coursework to make a total of 120 semester hours

Option III: Biochemistry Honors

- e. Breadth requirement: An honors mathematics course, Biology 315H and 325H, Chemistry 301C and 302C, and three additional semester hours of coursework chosen from honors courses in the college. Credit earned by examination may not be counted toward this requirement.
- f. The following chemistry courses:
 - i. General chemistry: 104M and 104N; 204; or 317
 - ii. Organic chemistry: Chemistry 128K, 128L, 328M, and 328N; or 220C, 320M, and 320N
 - iii. Biochemistry: Biochemistry 219L, 339F, 339J, 339M, 339N, and 370
 - iv. Physical chemistry: Chemistry 353 or 353M
 - v. Analytical chemistry: Chemistry 455
- g. Biology 344
- h. A section of Undergraduate Studies 302 or 303 that is approved by the departmental honors advisor
- i. A section of Rhetoric and Writing 309S that is restricted to students in the Dean's Scholars Honors Program
- j. Biochemistry 379H and either a three-semester-hour upper-division research course approved by the departmental honors advisor or a second section of Biochemistry 379H
- k. Twenty-four additional semester hours of coursework approved by the departmental honors advisor.
 - l. Six semester hours of coursework from in the College of Liberal Arts and/or the College of Fine Arts.
- m. Enough additional coursework to make a total of 120 semester hours.

Special Requirements

Students in all Options must fulfill both the [University's General Requirements](#) for graduation and the [college requirements](#). They must also earn a grade of at least C- in each mathematics and science course required for the degree, and a University grade point average in these courses of at least 2.00. More information about grades and the grade point average is given in the [General Information Catalog](#).

To graduate under Option III, students must remain in good standing in the Dean's Scholars Honors Program, must submit an honors thesis approved by the departmental honors advisor and present their research in an approved public forum, such as the Spring Undergraduate Research Forum or Fall Undergraduate Research Symposium.

Order and Choice of Work

The student must consult the BIO Advising Office or Honors Advisor each semester regarding order and choice of work.