Biochemistry, B.S.

DEPARTMENT

MN in Chemistry, Minor
BA in Chemistry, B.A.
BS in Chemistry, B.S.
MS in Chemistry, M.S.
BS in Biochemistry, B.S.
CRED in Single Subject Credential - Chemistry

REQUIREMENTS

Department

Bachelor of Science in Biochemistry

Degree Requirements

The Bachelor of Science in Biochemistry is intended for students who plan to pursue a career in biochemical research, chemistry research, and suitable for a student pursuing health professions (medical, pharmaceutical, dental, and other clinical and health professions). The B.S. program is a comprehensive, multi-disciplinary program to prepare students for graduate study in pursuit of a Master of Science (M.S.) or Doctor of Philosophy (Ph.D.) in areas related to biochemistry.

Note: Biochemistry majors may not take courses listed in the major or additional requirements for CR/NC grades.

1. Major requirements (50-54 units)

Core Program

CHEM 1A, 1AL, 1B, 1BL, 102, 110A, 112, 128A, 128B, 129A, 129B, 155A, 155B, 156

Select two additional upper-division CHEM courses (4-7 units): CHEM 106, 106S, 111, 123, 124, or 190 or other approved courses.

Select two additional upper-division BIOL courses (6-7 units): BIOL 102, 103, 104, 120, or other approved courses.

Additional requirements (24-27 units)

BIOL 1A, 1B, 1BL

MATH 75, 76

PHYS 2A, 2B (or PHYS 4A, 4AL, 4B, 4BL, 4C strongly recommended)

2. General Education requirements (49 units)

3. Other requirements (6 units)

Upper-division writing and Multicultural and International (MI)

4. Sufficient elective units to meet required total units (varies)

5. Total minimum (120 units)*

* G.E. and MI courses can be double counted with major requirements. The writing requirement may be met by taking the upper-division writing exam. Of the 49 required General Education units, 10 units will be satisfied by the following courses in the major and additional requirements: 4 units of CHEM 1A and 1AL or PHYS 2A (or PHYS 4A and 4AL) in G.E. Breadth B1; 3 units of BIOL 1A in G.E. Breadth B2; 3 units of MATH 75 in G.E. Foundation B4. See advisor for details.

The following is an example of a four-year program for the B.S. in Biochemistry.

First Semester Fall

CHEM 1A and 1AL (5 units)
MATH 75 (4 units)
ENGL 5B or 10 (3 units)
General Education (3 units)
Total (15 units)

Second Semester Spring
CHEM 1B and 1BL (5 units)
MATH 76 (4 units)
PHYS 2A (4 units)
General Education (3 units)
Total (16 units)

Third Semester Fall
CHEM 128A (3 units)
PHYS 2B (4 units)
BIOL 1A (4 units)
General Education (3 units)
Total (14 units)

Fourth Semester Spring
CHEM 128B (3 units)
CHEM 129A (2 units)
BIOL 1B, 1BL (5 units)
Electives or General Education (6 units)
Total (16 units)

Fifth Semester* Fall
**CHEM 155A (3 units)
CHEM 129B (2 units)
CHEM 102 (5 units)
**CHEM 110A (3 units)
Electives or General Education (6 units)
Total (16 units)

Sixth Semester* Spring
***CHEM 155B (3 units)
***CHEM 156 (3 units)
***CHEM 112 (3 units)
Electives or General Education (6 units)
Total (15 units)

Seventh Semester Fall
Electives or General Education (14 units)
Total (14 units)

Eighth Semester Spring
Electives or General Education (14 units)
Total (14 units)

* It is important to fulfill the upper-division writing skills requirement by exam or W class during the junior year.

**Offered fall semester only.

*** Offered spring semester only.

FACULTY

Our faculty provide excellent research opportunities in analytical, biochemistry, inorganic, organic, and physical chemistry. The broad interests within the faculty have resulted in interdisciplinary research projects in collaboration with scientists and professors in other science areas: agricultural chemistry, biotechnology, clinical chemistry, forensic chemistry, forensic biochemistry, chemical physics, enology, nutritional science, and molecular biology. Research projects have involved local
facilities such as the California State Crime Laboratory, University Medical Center, UCSF Fresno Medical Education Program, USDA Research Station, U.S. Veteran's Administration Hospital, U.S. Forest Laboratory, and Valley Children's Hospital.

The graduate faculty are dedicated to providing students with a high-quality, rigorous M.S. program. Several of the faculty have received awards for the quality of their mentoring and teaching. They are widely respected in their field and regularly publish their work in leading scientific journals. The faculty have received funding to support their work from private foundations, and state and federal agencies, including the National Institutes of Health and the National Science Foundation. They also work with researchers at several National Laboratories and a number of top-tier research universities.

For faculty phone numbers and e-mail, see the campus directory.

For more on the faculty, see the faculty pages. The faculty pages are updated by the department or program.