Duluth Campus

Biochemistry B.A.

Chemistry and Biochemistry

Swenson College of Science and Engineering

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2013
- Required credits to graduate with this degree: 120
- Required credits within the major: 68 to 70
- Degree: Bachelor of Arts

Biochemistry is the study of chemical reactions and processes at the molecular level that sustain life. This field is both a life science and a chemical science, exploring the chemistry of living organisms and the molecular basis for the processes that occur in living cells. The Department of Chemistry and Biochemistry provides classroom and laboratory learning opportunities and research experiences across the discipline to meet the needs of students in pre-professional programs, as well as those of student who wish to pursue careers or graduate studies in biochemistry and related disciplines.

Students who complete the B.A. in biochemistry do so because it is a field that complements areas such as law, library science, journalism, public relations, sale, or education. The major also provides a strong foundation for students planning on attending professional schools, such as medical, dental or pharmacy school, while providing curricular flexibility to complete professional school prerequisites requirements. B.A. students are encouraged to participate in undergraduate research.

Program Delivery

This program is available:

- via classroom (the majority of instruction is face-to-face)

Admission Requirements

For information about University of Minnesota admission requirements, visit the Office of Admissions website.

Required prerequisites

Introductory Requirement (1 cr)

Transfer students with 24 or more credits and current students who change from a B.S. degree or change colleges may request to be waived from this requirement. New first-year students with 24 or more PSEO credits may request to be waived from this requirement.

UST 1000 - Learning in Community (1.0 - 2.0 cr)

General Requirements

The Board of Regents, on recommendation of the faculty, grants degrees from the University of Minnesota. Requirements for an undergraduate degree from University of Minnesota Duluth include the following:

1. Students must meet all course and credit requirements of the departments and colleges or schools in which they are enrolled including an advanced writing course. Students seeking two degrees must fulfill the requirements of both degrees. However, two degrees cannot be awarded for the same major.
2. Students must complete all requirements of the Liberal Education Program.
3. Students must complete a minimum of 120 semester credits.
4. At least 30 of the last 60 degree credits earned immediately before graduation must be awarded by UMD.
5. Students must complete at least half of their courses at the 3xxx-level and higher at UMD. Study-abroad credits earned through courses taught by UM faculty and at institutions with which UMD has international exchange programs may be used to fulfill this requirement.
6. If a minor is required, students must take at least three upper division credits in their minor field from UMD.
7. The minimum cumulative UM GPA required for graduation will be 2.00 and will include only University of Minnesota coursework. A minimum UM GPA of 2.00 is required in each UMD undergraduate major and minor. No academic unit may impose higher grade point standards to graduate.
8. Diploma, transcripts, and certification will be withheld until all financial obligations to the University have been met.

Program Requirements

1. Students must complete a second field of study, either a minor or another major.

Information current as of March 29, 2024

Advanced Writing (3 cr)
WRIT 31xx Adv Writting (3 cr)

Biology (16 cr)
BIOL 1011 - General Biology I [LE CAT, NAT SCI] (5.0 cr)
BIOL 1012 - General Biology II [SUSTAIN] (5.0 cr)
BIOL 3100 - Cell Biology (3.0 cr)
BIOL 2201 - Genetics (3.0 cr)

Chemistry (30 cr)
Chemistry I
CHEM 1153 - General Chemistry I [LE CAT, NAT SCI] (4.0 cr)
CHEM 1154 - General Chemistry Lab I [LE CAT, NAT SCI] (1.0 cr)
or CHEM 1161 *{Inactive}*[LE CAT4, NAT SCI] (5.0 cr)
Chemistry II
CHEM 1155 - General Chemistry II (4.0 cr)
CHEM 1156 - General Chemistry Lab II (1.0 cr)
or CHEM 1162 *{Inactive}*(5.0 cr)
Organic Chemistry
CHEM 2541 - Organic Chemistry I (3.0 cr)
CHEM 2543 - Organic Chemistry I Laboratory (1.0 cr)
CHEM 2542 - Organic Chemistry II (3.0 cr)
CHEM 2544 - Organic Chemistry II Laboratory (1.0 cr)
Biochemistry
CHEM 4351 - Biochemistry I (3.0 cr)
CHEM 4363 - Biochemistry Laboratory (2.0 cr)
CHEM 4352 - Biochemistry II (3.0 cr)
Analytical Chemistry
Students may also take CHEM 2242 Analytical Chemistry in Poland
CHEM 2212 - Environmental Chemistry [NAT SCI, SUSTAIN] (4.0 cr)
or CHEM 2222 - Quantitative Analysis (3.0 cr)
CHEM 2223 - Quantitative Analysis Laboratory (1.0 cr)

Mathematics (8 - 10 cr)
MATH 1290 - Calculus for the Natural Sciences [LE CAT2, LOGIC & QR] (5.0 cr)
or MATH 1296 - Calculus I [LE CAT, LOGIC & QR] (5.0 cr)
or MATH 1596 *{Inactive}*[LE CAT2, LOGIC & QR] (5.0 cr)
MATH 1297 - Calculus II [LOGIC & QR] (5.0 cr)
or MATH 1597 *{Inactive}*[LOGIC & QR] (5.0 cr)
or STAT 2411 - Statistical Methods [LE CAT, LOGIC & QR] (3.0 cr)
or STAT 3611 - Introduction to Probability and Statistics (4.0 cr)

Physics (10 cr)
Physics I
PHYS 1001 - Introduction to Physics I [LE CAT, NAT SCI] (5.0 cr)
or PHYS 2013 - General Physics I [LE CAT, NAT SCI] (4.0 cr)
PHYS 2014 - General Physics Lab I [NAT SCI] (1.0 cr)
Physics II
PHYS 1002 - Introduction to Physics II (5.0 cr)
or PHYS 2015 - General Physics II (4.0 cr)
PHYS 2016 - General Physics Lab II (1.0 cr)