

Duluth Campus

Biology B.S.

Biology

Swenson College of Science and Engineering

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2012
- Required credits to graduate with this degree: 120
- Required credits within the major: 78 to 84
- Degree: Bachelor of Science

The B.S. in biology offers preparation for graduate school and a sound basis for professional training in the biological and health sciences. Biology is an unusually broad field, and students can tailor their programs to fit their own needs and interests. To provide flexibility in pursuing personal interests or career preparation, the student chooses 18 credits of upper division biology electives.

The Department of Biology encourages students to develop as active scholars and to participate in undergraduate research. The B.S. degree is detailed and specific with a concentration in science related coursework.

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](#).

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

Requirements for the B.S. in biology include:

* A minor or second major from another area of study; the cell biology major may not be used to meet this requirement.

Biology Core Courses (25 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)

[BIOL 2801](#) - General Ecology (3.0 cr)

[BIOL 3987](#) - Communication in Biology (2.0 cr)

BIOL 3401 - Evolution (3.0 cr)
 BIOL 2102 - Cell Biology Laboratory (2.0 cr)
 or BIOL 2202 - Genetics Laboratory (2.0 cr)
 or BIOL 2802 - Ecology Laboratory (2.0 cr)

Chemistry Requirement (17-18 cr)

CHEM 2541 - Organic Chemistry I (3.0 cr)
 CHEM 2543 - Organic Chemistry I Laboratory (1.0 cr)

General Chemistry

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)
 CHEM 1155 - General Chemistry II (4.0 cr)
 CHEM 1156 - General Chemistry Lab II (1.0 cr)
 or CHEM 1161 *{Inactive}* [LE CAT4, NAT SCI] (5.0 cr)
 CHEM 1162 *{Inactive}* (5.0 cr)

Additional Chemistry

CHEM 2212 - Environmental Chemistry [NAT SCI, SUSTAIN] (4.0 cr)
 or GEOL 3710 *{Inactive}* (3.0 cr)
 or CHEM 2222 - Quantitative Analysis (3.0 cr)
 CHEM 2223 - Quantitative Analysis Laboratory (1.0 cr)
 or CHEM 2542 - Organic Chemistry II (3.0 cr)
 CHEM 2544 - Organic Chemistry II Laboratory (1.0 cr)

Biology Electives 2xxx-5xxx (18 cr)

Must include a minimum of two lab courses or courses with a lab component. Two of the following may be used: MDBC 5501, MICB 5545, MICB 5555, PHSL 5601, PHSL 5602. Two credits of SSP 3002 - Teaching Assistant Practicum for supplemental instruction in biology may be substituted for BIOL 3993 an upper division elective with department approval.

Take 18 or more credit(s) from the following:

- BIOL 2xxx
- BIOL 3xxx
- BIOL 4xxx
- BIOL 5xxx
- BIOL 3601 - Plant Diversity (3.0 cr)
 or BIOL 3701 - Animal Diversity (4.0 cr)
 or BIOL 3502 - General Microbiology (4.0 cr)
 or BIOL 4503 *{Inactive}* (4.0 cr)

Courses From Other Programs (18-23 cr)

First math course is determined by students ACT math score. This schedule presupposes placement into MATH 1290/1296. Courses cannot be used to fulfill more than one category.

WRIT 3150 - Advanced Writing: Science (3.0 cr)

Mathematics requirement

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 STAT 2411 - Statistical Methods [LE CAT, LOGIC & QR] (3.0 cr)

Physics requirement

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)
 PHYS 1002 - Introduction to Physics II (5.0 cr)
 or CS 1121 - Introduction to Programming in Visual BASIC.NET [LE CAT, LOGIC & QR] (3.0 cr)
 or MATH 1297 - Calculus II [LOGIC & QR] (5.0 cr)
 or STAT 2411 - Statistical Methods [LE CAT, LOGIC & QR] (3.0 cr)
 or PHYS 2015 - General Physics II (4.0 cr)
 PHYS 2016 - General Physics Lab II (1.0 cr)