Crookston Campus

Biology B.S.

Math, Science and Technology

Academic Affairs

- Program Type: Baccalaureate
- Requirements for this program are current for Fall 2020
- Required credits to graduate with this degree: 120
- Required credits within the major: 83 to 86
- This program requires summer terms.
- Degree: Bachelor of Science

The BS in biology provides students with a broad knowledge of the biological sciences while introducing them to the practical skills needed in today's biotech industries and the background required to be successful applicants to graduate programs. Students may choose from advanced courses designed to emphasize studies in either animal or plant systems while participating in a common core of courses which provide knowledge in the basic principles relevant to both areas.

Program outcomes for graduates:
Explain and reconstruct the scientific method and can apply this mode of inquiry in a laboratory setting
Explain and apply basic principles of biology in work setting
Demonstrate teamwork skills
Apply, critique, and synthesize protocols from current literature
Demonstrate and critique effective oral and written communication skills
Formulate proper data collection and analysis methods
Interpret and practice professional and ethical behavior related to biological research
Identify, provide examples, differentiate, and integrate current biology techniques into their scientific investigations

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

All students are required to complete general University and college requirements. For more information, see the graduation requirements.

Program Requirements

Students must complete 40 upper-division credits.

A maximum of two D grades are allowed for core courses required in the program and technology requirements. This includes grades earned at UMC or transferred in from another institution.

Biology Core

Take exactly 14 course(s) totaling 37 - 38 credit(s) from the following:
•BIOL 1805 *{Inactive}*(2.0 cr)
•BIOL 2032 - General Microbiology (4.0 cr)
•BIOL 3022 - Principles of Genetics (3.0 cr)
•BIOL 3027 - Cell Biology (3.0 cr)
•BIOL 3122 - Evolution (3.0 cr)
•BIOL 3822 - Techniques in Molecular Biology (4.0 cr)
•BIOL 4101 - Biology Seminar (1.0 cr)
•NATR 3374 - Ecology [BIOL SCI] (4.0 cr)
•WRIT 3303 - Writing in Your Profession (3.0 cr)
•Choose one of the following:
•BIOL 1009 - General Biology [BIOL SCI, PEOPLE/ENV] (4.0 cr)
or BIOL 1009H - Honors: General Biology [BIOL SCI, PEOPLE/ENV] (4.0 cr)
•Choose one of the following:

Information current as of March 28, 2024

•BIOL 2012 - General Zoology (4.0 cr)
or BIOL 2020 - Plant Anatomy and Physiology [BIOL SCI, PEOPLE/ENV] (3.0 cr)
or BIOL 2021 - Plant Diversity, Ecology, and Evolution [BIOL SCI, PEOPLE/ENV] (3.0 cr)

Pre-Internship Seminar

BIOL 3899 - Pre-Internship Seminar (0.5 cr)

Internship

Take exactly 2 credit(s) from the following:
•BIOL 3900 - Internship (1.0 - 2.0 cr)

Post-Internship Seminar

BIOL 3901 - Post-Internship Seminar (0.5 cr)

Chemistry Core

Take exactly 9 course(s) totaling exactly 21 credit(s) from the following:
•CHEM 1061 - Chemical Principles I [PHYS SCI, PEOPLE/ENV] (3.0 cr)
•CHEM 1062 - Chemical Principles II (3.0 cr)
•CHEM 1065 - Chemical Principles I Laboratory [PHYS SCI, PEOPLE/ENV] (1.0 cr)
•CHEM 1066 - Chemical Principles II Laboratory (1.0 cr)
•CHEM 2301 - Organic Chemistry I (3.0 cr)
•CHEM 2302 - Organic Chemistry II (3.0 cr)
•CHEM 2310 - Organic Chemistry Laboratory I (2.0 cr)
•CHEM 2311 - Organic Chemistry Laboratory II (2.0 cr)
•CHEM 3021 - Biochemistry I (3.0 cr)

Math and Physics Core

Take exactly 4 course(s) totaling exactly 15 credit(s) from the following:
•MATH 1150 - Introduction to Statistics [MATH THINK] (3.0 cr)
•MATH 1271 - Calculus I [MATH THINK] (4.0 cr)
•PHYS 1101 - Introductory College Physics I [PHYS SCI] (4.0 cr)
•PHYS 1102 - Introductory College Physics II [PHYS SCI] (4.0 cr)

Biology Electives

Take 10 - 12 credit(s) from the following:
•AGRO 3030 - Statistical Analyses and Research Techniques in Agriculture and Natural Resources (3.0 cr)
•AGRO 3230 - Introduction to Plant Pathology (3.0 cr)
•ANSC 3203 - Animal Anatomy and Physiology (4.0 cr)
•ANSC 3304 - Reproductive Physiology (4.0 cr)
•BIOL 2103 - Human Anatomy and Physiology I (4.0 cr)
•BIOL 2104 - Human Anatomy and Physiology II (4.0 cr)
•BIOL 3140 - Histology (4.0 cr)
•BIOL 3464 - Mammalogy (3.0 cr)
•BIOL 3466 - Ornithology (3.0 cr)
•BIOL 3722 - Limnology (3.0 cr)
•BIOL 3994 - Undergraduate Research (1.0 - 4.0 cr)
•BIOL 4361 - Developmental Biology (4.0 cr)
•GEOL 1001 - Introductory Geology [PHYS SCI, PEOPLE/ENV] (4.0 cr)
•HSCI 1123 - Fundamentals of Nutrition [BIOL SCI] (3.0 cr)
•MATH 1272 - Calculus II (4.0 cr)
•NATR 3364 - Plant Taxonomy (3.0 cr)
•SOIL 1293 - Soil Science (3.0 cr)
•AGRO 2573 - Entomology (3.0 cr)
or NATR 2573 - Entomology (3.0 cr)

Liberal Education

This program requires a minimum of 40 credits of liberal education and completion of the ten goal areas of the Minnesota Transfer Curriculum. The following are specific required liberal education courses.
Take exactly 3 course(s) totaling exactly 9 credit(s) from the following:
•COMP 1011 - Composition I [COMMUNICAT] (3.0 cr)
•COMP 1013 - Composition II [COMMUNICAT] (3.0 cr)
•COMM 1101 - Public Speaking [COMMUNICAT] (3.0 cr)

Technology

If applicable, the course selected from below may be used to satisfy both the program and technology requirements.
Take exactly 1 course(s) totaling exactly 3 credit(s) from the following:
•CA 1xxx
•CA 2xxx
•CHEM 3022 - Fate and Analysis of Chemicals (4.0 cr)

•MATH 1150 - Introduction to Statistics [MATH THINK] (3.0 cr)

Open Electives

Students must take enough open electives credits to meet the 120 credit graduation requirement.