Twin Cities Campus

Microbiology Minor

Microbiology

College of Biological Sciences

- Program Type: Undergraduate minor related to major
- Requirements for this program are current for Spring 2018
- Required credits in this minor: 38 to 45

Microbiologists study the structure, function, and interaction of microbes, which make up 60 percent of the earth's biomass. Regarded by many as the foundation of the biosphere, microbes were likely the first form of life on earth, predating plants and animals by more than three billion years. Microbiologists study the role of microbes, such as bacteria, fungi, and viruses in our world. A key goal of microbiologists today is to find new ways to use microbes to our advantage, such as engineering bacteria to synthesize cancer drugs or clean up toxic waste sites.

Students completing the biology minor are not eligible for the microbiology minor.

Program Delivery

This program is available:

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

Admission Requirements

A GPA above 2.0 is preferred for the following:

- 2.50 already admitted to the degree-granting college
- 2.50 transferring from another University of Minnesota college
- 2.50 transferring from outside the University

If a student wishes to use VBS 2032 (or a non-majors microbiology course at another institution) to gain admission to the minor, the student should contact the director of Undergraduate Studies for microbiology for approval.

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

Required prerequisites

Prerequisite coursework for admission

These courses are prerequisite coursework for the minor admission courses.

Biology

BIOL 1009 - General Biology [BIOL] (4.0 cr)
BIOL 1951 - Foundations of Biology Lecture I for Biological Sciences Majors [BIOL] (4.0 cr)
BIOL 1961 - Foundations of Biology Lab I for Biological Sciences Majors [BIOL] (2.0 cr)
BIOL 2003 - Foundations of Biology for Biological Sciences Majors, Part II (3.0 cr)
or BIOL 1951H - Foundations of Biology Lecture I for Biological Sciences Majors [BIOL] (4.0 cr)
BIOL 1961H *{Inactive}*[BIOL] (2.0 cr)
BIOL 2003H - Foundations of Biology for Biological Sciences Majors, Part II (3.0 cr)

Chemistry

CHEM 1081 - Chemistry for the Life Sciences I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
CHEM 1082 - Chemistry for the Life Sciences II (3.0 cr)
CHEM 1086 - Chemistry for the Life Sciences II Laboratory (1.0 cr)
CHEM 2081 - Chemistry for the Life Sciences III (3.0 cr)
CHEM 2085 - Chemistry for the Life Sciences III Laboratory (2.0 cr)
or CHEM 1061 - Chemical Principles I [PHYS] (3.0 cr)
CHEM 1065 - Chemical Principles I Laboratory [PHYS] (1.0 cr)
CHEM 1062 - Chemical Principles II [PHYS] (3.0 cr)
CHEM 1066 - Chemical Principles II Laboratory [PHYS] (1.0 cr)
CHEM 2301 - Organic Chemistry I (3.0 cr)
or CHEM 1071H - Honors Chemistry I [PHYS] (3.0 cr)
CHEM 1075H - Honors Chemistry I Laboratory [PHYS] (1.0 cr)
CHEM 1072H - Honors Chemistry II [PHYS] (3.0 cr)
CHEM 1076H - Honors Chemistry II Laboratory [PHYS] (1.0 cr)
CHEM 2331H - Honors Elementary Organic Chemistry I (3.0 cr)

Admission Courses

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MICB 3301 - Biology of Microorganisms (5.0 cr)
BIOL 3025 - Molecular Biology and Society [TS] (3.0 cr)
BIOC 3022 - Biochemistry for Life Scientists (3.0 cr)
or BIOC 4331 - Biochemistry I: Structure, Catalysis, and Metabolism in Biological Systems (4.0 cr)
or MICB 3301 - Biology of Microorganisms (5.0 cr)
BIOC 3021 - Biochemistry (3.0 cr)
GCD 3022 - Genetics (3.0 cr)

Minor Requirements

Students who wish to declare a minor in microbiology can do so online at the College of Biological Sciences website. Students majoring in biology may not pursue a minor in microbiology.

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Coursework needs to be completed at the University of Minnesota-Twin Cities.

Genetics

BIOL 4003 - Genetics (3.0 cr)
or GCD 3022 - Genetics (3.0 cr)

Microbiology Lecture

Take 2 or more course(s) totaling 6 or more credit(s) from the following:

- PMB 4111 - Microbial Physiology and Diversity (3.0 cr)
- PMB 4121 - Microbial Ecology and Applied Microbiology (3.0 cr)
- MICB 4131 - Immunology (3.0 cr)
- MICB 4151 - Molecular and Genetic Bases for Microbial Diseases (3.0 cr)
- MICB 4161W - Eukaryotic Microbiology [WI] (3.0 cr)
- MICB 4171 - Biology, Genetics, and Pathogenesis of Viruses (3.0 cr)

Microbiology Lab

It is preferred that students pursuing the microbiology minor complete MICB 4215 or MICB 4225W.

Take 1 or more course(s) totaling 3 or more credit(s) from the following:

- MICB 4215 - Advanced Laboratory: Microbial Physiology and Diversity (3.0 cr)
- MICB 4225W - Advanced Laboratory: Microbial Genetics [WI] (3.0 cr)
- MICB 4235 - Advanced Laboratory: Virology, Immunology, and Microbial Genetics (3.0 cr)

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