

Mayville State University

Biology

Bachelor of Science

Online

Personal Service

We pride ourselves on being just the right size to give students the time they need to be successful. Our average class size is 15, so you will have small, personalized class settings with a technological focus for you to receive the education you deserve. Your professors will introduce you to new ways of thinking, exploring issues creatively, and evaluating ideas as you engage in the world.

Opportunity

Whether it's music, athletics, or politics, students at MSU have the chance to participate in a variety of activities and clubs. These organizations are a great way to make new friends with similar interests, and the involvement outside the classroom looks great on a resume.

Some clubs and activities include:

- Theater
- Band & Choir
- Math Club
- DECA
- Esports
- Science Club
- Comet Radio
- Student Government
- Intramural Sports

Success

Our students get jobs. Period. We also have internship opportunities to give you real, hands-on learning experiences and make your resume stand out.

Value

The combination of MSU's affordability and its unique offerings make it a Best in the Midwest College, as designated by the Princeton Review. This selection process is based on meeting criteria for academic excellence as well as results of surveys done by current MSU students.

The Program

Mayville State's biology program will prepare you for many career and educational opportunities. The program offers opportunities for students to get involved in biological research and to actively participate in the biology/science community.

Our biology program will produce the following student learning outcomes:

- SLO 1: Students will acquire a content knowledge base commensurate with career goals.
- SLO 2: Students will communicate scientific information both orally and in writing.
- SLO 3: Students will apply quantitative or qualitative theories of science to a broad variety of biological problems (including experiential component).
- SLO 4: Students will construct and critically analyze scientific arguments.

Undergraduate Research Opportunities

In many programs, research opportunities are limited to graduate students, but at Mayville State we're focused on your success as an undergraduate. That's why our program offers you personalized class settings, up-to-date tools, and the opportunity for a variety of research projects.

"My favorite thing about MSU is the individual attention instructors can offer. If I have a question, I don't feel shy about asking during class or staying after in order to get the best out of my education."

- Katelyn O.
Biology Major

Major: Biology

Required credits to graduate with this degree: 120

The realm of Biology is large and expansive. This program allows for students interested in biology to focus their students in their primary area of interest. Whether students are interested in pursuing careers in wildlife, teaching, medicine, or any of the multiple pre-professional paths, MSU has a route for you to get there. Students will complete the Essentials core, the Biology Core shown below, and the desired biology specialization. The MSU Bachelor of Science degree requires completion of at least a minor program in a supporting area in conjunction with the major. A capstone project (laboratory or non-laboratory emphasis) is required.

Biology majors must complete 3 hours of Essential Studies including: COMM 110, ENGL 110, ENGL 120 or ENGL 125, MATH 103, MATH 105, BIOL 150, BIOL 150L, BIOL 151, BIOL 151L, and a minimum of six (6) SH of social sciences which are pre-requisite courses for this major.

Biology - B.S.

Core Requirements:

BIOL 315	Genetics	3 SH
BIOL 315L	Genetics Lab	1 SH
BIOL 341	Cell and Molecular Biology	3 SH
BIOL 341L	Cell and Molecular Biology Lab	1 SH
BIOL 359	Evolution	3 SH
BIOL 476S	Comprehensive Review and Exam	1 SH
MATH 323	Probability & Statistics	3 SH
SCNC 480	Science Comprehensive	1 SH

Total 16 SH

Specialization Areas

Health Careers Area Specialization (minimum 13 SH)

BIOL 220	Anatomy & Physiology I	3 SH
BIOL 220L	Anatomy & Physiology Lab I	1 SH
BIOL 221	Anatomy & Physiology II	3 SH
BIOL 221L	Anatomy & Physiology Lab II	1 SH
BIOL 302	Survey of Microbiology	3 SH
BIOL 302L	Survey of Microbiology Lab	1 SH
BIOL 364	Parasitology	3 SH
BIOL 301	Immunology	3 SH

Wildlife Careers Area Specialization (minimum 13 SH)

BIOL 236	Survey of Botany	3 SH
BIOL 236L	Survey of Botany Lab	1 SH
BIOL 311	Invertebrate Zoology	3 SH
BIOL 311L	Invertebrate Zoology Lab	1 SH
BIOL 312	Vertebrate Zoology	3 SH
BIOL 312L	Vertebrate Zoology Lab	1 SH
BIOL 332	General Ecology	3 SH
BIOL 364	Parasitology	3 SH

Admission to Biology Major

All admission criteria are monitored and enforced by the discipline faculty. Admission to the Biology major requires that the student:

- Complete BIOL 150 and BIOL 151 with a minimum grade of "C" in each course.
- Have an institutional cumulative GPA of at least 2.50.
- Have satisfactory communication skills as demonstrated by successful completion of ENGL 110 and ENGL 120 or ENGL 125 with a minimum grade of "C" in each course.
- Have satisfactory mathematics skills as demonstrated by successful completion of MATH 103 with a minimum grade of "C".
- Complete an oral interview with the discipline faculty.

Final approval of the discipline faculty is contingent upon their professional judgment following consideration of documentation and faculty assessment.

Chemistry Minor

Required credits to graduate with this minor: 20

The Chemistry Minor consists of a minimum of 20 semester hours including CHEM 121 and CHEM 122. *This minor is recommended for medical/graduate school candidates.*

Core Requirements:

BIOL 121/L	General Chemistry I/Lab	4 SH
BIOL 122/L	General Chemistry II/Lab	4 SH

NOTE: 12 semester hours of approved chemistry electives to total a minimum of 20 semester hours.

Mathematics Minor

Required credits to graduate with this minor: 18-23

The Mathematics Minor consists of a minimum of 18 semester hours.

Core Requirements:

MATH 105	Trigonometry	2 SH
MATH 165	Calculus I	4 SH
MATH 323	Probability & Statistics	3 SH

Electives to complete the 18 semester hours (9 hours) may be selected from the following:

MATH 166	Calculus II	4 SH
MATH 265	Calculus III	4 SH
MATH 389	Modern Geometry	3 SH
MATH 412	Differential Equations	3 SH
MATH 420	History & Philosophy of Math	3 SH
MATH 435	Theory of Numbers	3 SH