Biology

Biology is a multi-faceted discipline that studies all life forms and structures, and NMU's Biology Department accommodates the diversity of fields within this discipline by offering a range of majors and concentration areas. With a Biology major, your career options are wide open. Some common paths for NMU Biology students to take bring them to positions in field research or wildlife management wit state and federal agencies. Other students find positions as laboratory researchers or production specialist with private biotechnology or pharmaceutical corporations. Our students become teachers, animal rehabilitators, doctors, dentists, physical therapists, and conservation biologist. Those who discover a passion for discovery may pursue a graduate training to become independent researchers and academics. Career possibilities available to you as a biology major depend on the competencies and skills you acquire through both academic work and extracurricular experiences, so take advantage of every opportunity to learn form your NMU experience!

Skills and Competencies

The Biology major at NMU is a diverse program that will give you the opportunity to master many skills and gain competencies in a variety of fields, but you must be prepared to invest heavily of your time and energy to maximize the potential to achieve your professional goals. Strong mathematics skills are required for our students, as math -intensive physics and chemistry courses are core requirements for the Biology major. To complete your undergraduate degree efficiently you will want to build a robust math and analytical skill set before arriving at NMU. Equally important are excellent writing skills through diverse writing projects over the course of your NMU career. Critical thinking, analysis, and research skills are all developed through laboratory projects and course work. For the most highly motivated and capable students, the opportunity to perform research in collaboration with Biology faculty is also available. Such extracurricular experiences provide excellent opportunities to learn new skills that can provide leverage for future internship and job applications.

Course Work

This degree includes the following courses as part of the program requirements, and specific major requirements along with general education courses and graduation requirements. The major is designed to provide considerable flexibility so students can choose courses that fit their specific interests and career goals. For some careers and graduate schools, students may need chemistry or physics courses beyond the minimum required for the major.

Biology Core

BI 111 Introductory Biology: Principles (4 cr.)
BI 112 Introductory Biology: Diversity (4 cr.)
BI 210 Principles of Ecology (4 cr.)
BI 215 Principles of Evolution (4 cr.)
BI 218 Introduction to Cell and Molecular (4 cr.)
BI 312 Genetics (4 cr.)
BI 489 Graduate Assessment for Biology (0 cr.)

Biology Concentrations

Botany
Ecology
General
Microbiology
Physiology
Zoology

Other Required Courses

CH111 General Chemistry I (5 cr.)
CH112 General Chemistry II (5 cr.)
CH220 Introduction to Organic Chemistry (5 cr.)
or CH315 Organic Chemistry I (3 cr.) and
CH317 Organic Chemistry Lab (1 cr.)
PH201 College Physics (5 cr.) or
PH 220 Introductory Physics (5 cr.)

Detailed course descriptions can be found at www.nmu.edu/bulletin.

Career Development

You should begin building your resume early in your academic career by seeking opportunities to gain meaningful experience in your chosen discipline. The more hands-on experience you have, the more competitive you will be when applying for future jobs and academic positions. In addition to maintaining good grades in your coursework, it is critical that you pursue biology related internships and research experiences to develop your professional skill set. The Academic and Career Advisement Center can help you fine- tune your resume and look for jobs related to your field.

Additional Considerations

The importance of gaining experience related to your professional interests in Biology through active participation in faculty-let research, summer internships, or volunteer activities cannot be over-emphasized. If your goal is to find a career find a career in biology, you should seek every opportunity to build your skill-set. In addition, some of the occupations listed in this pamphlet require education beyond the baccalaureate degree. Talk to faculty about your career goals early in your program so that you will get appropriate advising, especially if you anticipate that graduate school may be in your future. Certain career paths may require the taking and passing of specific exams, such as the Graduate Record Exam and the Civil Service Exam. Foreign language competency, sometimes in two languages, may be required in some graduate programs.

Job Outlook

Some professions within the Biology field are expected to grow faster than others. Refer to the U.S. Bureau of Labor's Occupational Outlook Handbook (website on back) for more information. Salaries vary for different areas of Biology and also depend upon the level of education required. Median salaries for biologists range from $35,000 to more than $100,000.

Potential Careers

NMU's Biology Program lays a foundation for employment in diverse careers, including:

- *Biochemist*
- *Botanist*
- *Community College Instructor*
- *Dentistry*
- *Ecologist*
- *Entomologist*
- *Environmental Consultant*
- *Environmental Educator*
- *Field Biologist*
- *Fisheries Biologist*
- *Food Technologist*
- *Geneticist*
- *High School Teacher*
- *Laboratory Technician*
- *Marine Biologist*
- *Medical Doctor*
- *Microbiologist*
- *Paramedic*
- *Park Naturalist*
- *Peace Corps/ VISTA Volunteer*
- *Pharmaceutical Researcher*
- *Pharmacology Sales Representative*
- *Plant Scientist*
- *Physical Therapist*
- *University Professor*
- *Veterinarian*
- *Wildlife Biologist or Rahabilitator*
- *Zoologist*

Additional Resources and Information

For Career Planning and Opportunities:

Academic & Career Advisement Center
3302.1 C.B. Hedgcock
906-227-2971
www.nmu.edu/acac

Biology Department
2001 New Science Facility
906-227-2310
www.nmu.edu/biology

For Job Search, Resume and Career Information:

Career Services
3302.3 C.B. Hedgcock
906-227-2800
www.nmu.edu/careers

For Information about NMU Student Organizations Associated with this Major Contact:

Center for Student Enrichment
1206 University Center
906-227-2439
www.nmu.edu/cse

Beta Beta Beta Biological Honor Society
Fisheries and Wildlife Society
Green Thumb Society
Plant Ecology Club
Pre-Veterinarian Club

Internet Resource Links:

www.careers.org
www.bls.gov

For Career Information with National Organizations:

www.obfs.org
www.faseb.org
www.aibs.org
www.sciencejobs.com

NORTHERN MICHIGAN UNIVERSITY

The Academic & Career Advisement Center
2020

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