

# Biological Sciences



The Department of Biological Sciences offers a major leading to the Bachelor of Science Degree. The program prepares students for employment in a variety of biological areas in government, education, and industry, for entrance into graduate study in a biological discipline, and for professional schools such as medical, dental, podiatric medicine, optometry, veterinary medicine and pharmacy. With some additional course work and student teaching, students may also be certified to teach at the middle school and high school levels (Biology and General Science).

## Clubs and Groups

- **Anatomy Club**
- **Phi Sigma Science Biological Sciences Honors Society**
- **Committee for the Preservation of Wildlife**
- **Pre-Professional Association**
- **Pre-Veterinary Medicine Association**

## Research Facilities

Our teaching laboratories will provide you with extensive experience with living organisms and experimental equipment and technology, including live animal quarters, greenhouses, anatomy lab, confocal and electron microscopy, flow cytometer, molecular core services, X-ray and radioisotope laboratories.

### Research Collaboration

In addition to our own state-of-the-art facilities, we collaborate with several top-ranked institutions in our area:

**Argonne National Laboratory**  
**Brookfield Zoo**  
**Burpee Museum of Natural History**  
**Center and Ball Seed Company**  
**Fermi National Accelerator Laboratory**  
**Field Museum of Natural History**  
**Lincoln Park Zoo**  
**The Morton Arboretum**  
**Monsanto - Waterman Seed Technology**  
**John G. Shedd Aquarium**  
**University of Illinois College of Medicine**  
**- Rockford**

## Engaged Learning

### Research in a Biology Professor's Lab:

Being involved in actual research is the best way to learn the process of science. Here at NIU, students can work closely with a professor in a lab setting and gain valuable experience in the general principles of experimental design, analyses, interpretation, literature search and scientific writing.

“Through their substantial research and teaching experience, the faculty and staff of NIU’s Biology program provide a fertile environment in which a student may develop and nurture intellectual curiosity for processes of the natural world.”

*Evan Wittke, BIOS, 2014*



NORTHERN ILLINOIS UNIVERSITY

Department of Biological Sciences

College of Liberal Arts and Sciences

# Degree Requirements

Biology is a diverse and rapidly expanding field of study that addresses issues relevant to health, agriculture, industry and the environment. Biologists are responsible for new discoveries in medicine and molecular biology, increasing crop yields and pest resistance, defining the ecological relationships that maintain our planet and examining the origins and evolution of species, to name just a few. As the scope and pace of biological discoveries increase, so do the career opportunities for students in this exciting and rapidly expanding field of study.

## Contact Information

Department of Biological Sciences  
 Montgomery 349  
 Northern Illinois University  
 DeKalb, IL 60115  
 (815) 753-1753  
 email us: eburgess2@niu.edu

**niu.edu/biology**



## Major Requirements (46 hrs.)

### Requirements in Department

*Note: There is a 50-semester-hour limit of biology courses whether or not they apply to the major.*

BIOS 208	Fund. of Cellular Biology
BIOS 210	Fund. of Cellular Biology Lab
BIOS 209	Fund. of Organismal Biology
BIOS 211	Fund. of Organismal Biology Lab
BIOS 308	Genetics
BIOS 494	Biology Senior Assessment

*Electives from biological sciences courses at the 300 or 400 level (34)*

### Biology electives are offered in six primary areas of departmental specialization and include:

- 1) Biomedical Pre-Professional
- 2) Molecular Bioinformatics
- 3) Microbiology
- 4) Ecology, Evolution, Behavior and Conservation
- 5) Plant Science
- 6) Biology Teaching

*Students should consult with the departmental advisor for assistance in selecting the appropriate sequence of courses within one of these fields of study. Lists of biology upper level elective courses that are particularly relevant for each of the tracks are available in the Department of Biological Sciences office and website.*

### Requirements outside

#### Department (31-33) Chemistry

CHEM 210	General Chemistry I*
	<i>and</i>
CHEM 212	General Chemistry Lab I*
CHEM 211	General Chemistry II*
	<i>and</i>
CHEM 213	General Chemistry Lab II*
CHEM 330	General Organic Chemistry I
	<i>or</i>
CHEM 336	Organic Chemistry I
CHEM 331	General Organic Chemistry II
	<i>or</i>
CHEM 337	Organic Chemistry II

#### Math

MATH 155	Trig. and Elem. Functions*
	<i>or satisfactory performance on the Math Placement Exam</i>
MATH 229	Calculus I*
	<i>and</i>
MATH 230	Calculus II
	<i>or</i>
MATH 211	Calculus for Business and Social Science*
	<i>and</i>
STAT 200	Elementary Statistics

#### Physics

PHYS 210	General Physics I*
PHYS 211	General Physics II*
	<i>or</i>
PHYS 253	Fund. of Physics I: Mechanics*
	<i>and</i>
PHYS 273	Fund. of Physics II: Electromagnetism*

*\*Available for general education credit.  
 Total Hours in Biological Sciences: 78-80*

## Careers in the Biological Sciences

This program prepares students for employment in a variety of biological areas in government, education, and industry, for entrance into graduate study in a biological discipline, and for professional schools such as medical, dental, podiatric medicine, optometry, veterinary medicine and pharmacy.

- Physician
- Teacher / Professor
- Dentist
- Zoo Keeper
- Pharmacist
- Park Naturalist
- Physician Assistant
- Museum Curator
- Veterinarian
- Horticulturist
- Plant Genetic Engineer
- Political Consultant
- Industrial Molecular Biologist
- Forensic Biologist
- Research Technician
- Bioinformatics
- Microbiologist
- Environmental Consultant
- Biomedical Scientist
- Food/Water Quality Control
- Biological Patent Attorney
- Nuclear Medicine Technicians
- Pharmaceutical Sales
- Biotechnology Technician
- Genetic Counselor
- Conservation Biologist



**Northern Illinois University**