

# DEPARTMENT OF BIOLOGY

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## MAJORS (P. 4)

- Biology Major, B.S. with a Minor (<https://catalog.uwplatt.edu/undergraduate/business-industry-life-science-agriculture/biology/bs/with-a-minor/>)
- Biology Major, B.S. (<https://catalog.uwplatt.edu/undergraduate/business-industry-life-science-agriculture/biology/bs/>) with an Emphasis
  - Botany Emphasis
  - Comprehensive Emphasis
  - Ecology Emphasis
  - General Emphasis
  - Health Sciences Emphasis
  - Molecular/Genetics Emphasis
  - Nursing Emphasis
  - Secondary Education Emphasis (Non-Licensure)
  - Zoology Emphasis

## MINORS (P. 4)

- Biology (<https://catalog.uwplatt.edu/undergraduate/business-industry-life-science-agriculture/biology/minor/>)
- Biology Teaching (Non-Licensure) (<https://catalog.uwplatt.edu/undergraduate/business-industry-life-science-agriculture/biology/teaching-minor/>)
- Biotechnology (<https://catalog.uwplatt.edu/undergraduate/business-industry-life-science-agriculture/biology/biotechnology-minor/>)

## PURPOSE STATEMENT

The UW-Platteville Biology Program provides students with foundational knowledge in the biological sciences via its core curriculum. From this foundation, students pursue advanced topics related to subdisciplines of biology, including health sciences, organismal biology, ecology, molecular biology, genetics, biotechnology, and computational biology. The program provides students numerous opportunities to participate in hands-on research and guided investigations of special topics in collaboration with faculty and staff members. Our primary goal is to provide a learning environment and curriculum that make our students competitive for higher-level opportunities such as graduate and professional schooling, jobs in industry, careers in education, and service in government agencies. In addition, the Biology program provides general education courses in the category of natural science that introduce students pursuing other degrees to science as one approach to interpreting the world, fundamental biological concepts, and the interplay between biology and human society. Finally, many Biology courses support the needs of other programs at UW-Platteville, including Agriculture, Chemistry, Criminal Justice and Forensic Investigation, Data Science, Education, Engineering, and Health and Human Performance.

## STUDENT LEARNING GOALS

1. Our world is filled with a dazzling array of life; these seemingly unique and different organisms have shared features due to their common origin. Our biology majors will **demonstrate knowledge** of the characteristics that unify all living organisms, the forces that shape their diversity, and the structures and functions inherent to different living organisms.
2. Because science is a process used to explore and understand the world around us, our biology majors will **observe, question, hypothesize, test, analyze and develop conclusions** about natural phenomena.
3. Life is complex; understanding this complexity requires interdisciplinary training. As they investigate the natural world, our biology majors will appropriately **integrate knowledge and skills** from chemistry, mathematics, and other liberal arts and sciences.
4. Although some contributions to science are achieved by individual effort alone, most are accomplished when people with diverse perspectives and skills work together. Our biology majors will **engage in scientific inquiry both as individuals and as effective team members**.
5. Without communication, science has no impact. Our biology majors will **use a variety of oral and written means** to convey information to a wide range of audiences.
6. The advancement of scientific knowledge happens within a societal context. Our biology majors will **evaluate interactions between science and society** and the ethical issues surrounding those interactions.

## CULTIVATING ATTITUDES

The members of our department feel, as with any endeavor, correct attitudes provide an important complement to a sound knowledge base and skill set. As a department, we hope to instill in our students a set of attitudes we feel are important for all biologists. We do our best to model the following:

- **enthusiasm** for the science of biology and an **appreciation** for the multitude of ways that biology permeates our society
- a strong **curiosity** for the world around us
- a **respect** for the instruments and objects of our research
- and **integrity**, because without integrity, there is no trust of the individual and, taken to its natural ends, no trust in the field of biology and the process of science.

## BIOLOGY REQUIREMENTS AND ACADEMIC STANDARDS

### ELIGIBILITY FOR THE BIOLOGY MAJOR

Any student (new college student, external or internal transfer student) may declare a Biology Major (General emphasis) upon entering the program. Students may select a more specific emphasis only after earning a C- or better in the following foundational courses (or their equivalents): BIOLOGY 1020, BIOLOGY 1650, and BIOLOGY 1750. Students who have specific biology interests, plan on a particular biology career, or those who plan to enter a graduate or professional school generally pursue the Biology Major with emphasis, thereby focusing their educational experiences. Students who seek a wider range of biology experiences than defined by an emphasis area may choose our General emphasis or Comprehensive emphasis as these allow more flexibility in course selection that may better align with student interests.

### ELIGIBILITY FOR SELECT PRE-PROFESSIONAL PROGRAMS

Enrollment in the Pre-Nursing option is open to any entering student (or internal transfer student). To declare any other option, a student must be eligible for pursuing the Biology Major and must have a minimum overall GPA of 3.0. If a student's overall GPA drops below a 3.0, he or she will automatically be removed from the Pre-Professional Program. If this occurs, a student may appeal one time to the department for re-enrollment in the Pre-Professional Program.

### PROGRAM GRADE REQUIREMENTS

A grade of C- or higher is required in all courses taken to fulfill specific requirements of the biology major. This includes ENGLISH 1130 and ENGLISH 1230, as well as courses taken in other disciplines toward an emphasis.

#### Prerequisite Courses

In order to maintain enrollment in any biology course with identified prerequisite requirements, a student must successfully complete the required prerequisite(s). Students who register for a biology course that includes prerequisite requirements will be automatically un-enrolled from the course if they do not successfully complete the prerequisites.

## BIOLOGY CORE REQUIREMENTS

ALL biology majors must complete core courses in the following three areas:

Course	Title	Credits
<b>Required Biology Core Courses</b> <sup>1</sup>		
BIOLOGY 1020	BioQuest: Foundations for College Success	1
BIOLOGY 1650	The Unity of Life	5
BIOLOGY 1750	The Diversity of Life	5
BIOLOGY 2420	Fundamentals of Biological Investigations	3
BIOLOGY 3330	Genetics	3
BIOLOGY 3450	Ecology and Evolution	3
<b>Required Biology Capstone Experience</b> <sup>1</sup>		
BIOLOGY 4970 or BIOLOGY 4990	Senior Thesis Capstone Course: From Atoms to Ecosystems - The Study of Life	1
<b>Required Supporting Courses</b> <sup>1</sup>		
One semester of Chemistry		4-5
CHEMISTRY 1140 or CHEMISTRY 1050 or CHEMISTRY 1150 or CHEMISTRY 1240 or CHEMISTRY 1450	General Chemistry I Survey of General Chemistry General Chemistry I with Math Development General Chemistry II Chemistry for Engineers	

A second course (or set of courses) in STEM, outside of BIOLOGY

4-5

CHEMISTRY 1240	General Chemistry II	3
or PHYSICS 1050	Principles of Physics	
or PHYSICS 1350	Introductory Physics I	
or PHYSICS 1450	Introductory Physics II	
or PHYSICS 2240	General Physics I	
or PHYSICS 2340	General Physics II	
or ASTRON 1300/1310	Survey of Astronomy	
or ASTRON 1340/1310	Introductory Astronomy: Stars and Galaxies	
or ASTRON 1350/1310	Introductory Astronomy: The Solar System	
or ENVSS 1040	Planet Earth	
or GEOLOGY 1140	Physical Geology	
or SCSCI 2230	Soils	
MATH 1830	Elementary Statistics	

**Total Credits****32-34**

<sup>1</sup> A grade of C- or higher is required in all courses taken to fulfill specific requirements of the biology major. This includes ENGLISH 1130 and ENGLISH 1230, as well as courses taken in other disciplines toward an emphasis.

Students who expect to enter professional or graduate school should consider taking additional courses in mathematics, chemistry, physics, sociology, psychology and philosophy. Academic advisers will guide you in the selection of these courses.

## **PRE-PROFESSIONAL PROGRAMS ([HTTPS://CATALOG.UWPLATT.EDU/UNDERGRADUATE/PRE-PROFESSIONAL-SPECIAL-PROGRAMS/PRE-PROFESSIONAL/](https://catalog.uwplatt.edu/undergraduate/pre-professional-special-programs/pre-professional/))**

The following pre-professional programs are administered and advised through the UW-Platteville Biology Department:

### **PRE-CHIROPRACTIC**

Amanda Trewin  
241 Gardner Hall  
608.342.1527

### **PRE-DENTISTRY**

John Peterson  
242 Gardner Hall  
608.342.7329

### **PRE-MEDICAL TECHNOLOGY**

Mark Levenstein  
240 Gardner Hall  
608.342.1331

### **PRE-MEDICINE**

Rich Dhyanchand  
340 Gardner Hall  
608.342.6155

### **PRE-NURSING**

Nadia Sifri  
235 Gardner Hall  
608.342.7125

### **PRE-OCCUPATIONAL THERAPY**

Amanda Trewin  
241 Gardner Hall  
608.342.1527

## PRE-OPTOMETRY

John Peterson  
242 Gardner Hall  
608.342.7329

## PRE-OSTEOPATHY

Rich Dhyanchand  
340 Gardner Hall  
608.342.6155

## PRE-PHYSICAL THERAPY

Amanda Trewin  
241 Gardner Hall  
608.342.1527

## PRE-PHYSICIAN ASSISTANT

Rich Dhyanchand  
340 Gardner Hall  
608.342.6155

## PRE-PODIATRY

Rich Dhyanchand  
340 Gardner Hall  
608.342.6155

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## RELATED MAJOR

- Computer Science + Computational Biology (<https://catalog.uwplatt.edu/undergraduate/engineering-mathematics-science/computer-science-software-engineering/computer-science-bs/#computational-biology>)

## MINORS

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- Biology Teaching Minor (Non-Licensure (<https://catalog.uwplatt.edu/undergraduate/business-industry-life-science-agriculture/biology/teaching-minor/>))
- Biotechnology Minor (<https://catalog.uwplatt.edu/undergraduate/business-industry-life-science-agriculture/biology/biotechnology-minor/>)

## FOUR-YEAR PLANS

- Biology Major with Botany Emphasis, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/business-industry-life-science-agriculture/biology/bs/botany-emphasis-four-year-plan/>)
- Biology Major with Comprehensive Emphasis, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/business-industry-life-science-agriculture/biology/bs/comprehensive-emphasis-four-year-plan/>)
- Biology Major with Ecology Emphasis, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/business-industry-life-science-agriculture/biology/bs/ecology-emphasis-four-year-plan/>)

- Biology Major with Health Sciences Emphasis, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/business-industry-life-science-agriculture/biology/bs/health-sciences-emphasis-four-year-plan/>)
- Biology Major with Molecular/Genetics Emphasis, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/business-industry-life-science-agriculture/biology/bs/molecular-genetics-emphasis-four-year-plan/>)
- Biology Major with Nursing Emphasis, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/business-industry-life-science-agriculture/biology/bs/nursing-emphasis-four-year-plan/>)
- Biology Major with Secondary Education (Non-Licensure), B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/business-industry-life-science-agriculture/biology/bs/secondary-education-emphasis-four-year-plan/>)
- Biology Major with Zoology Emphasis, B.S., Four-Year Plan (<https://catalog.uwplatt.edu/undergraduate/business-industry-life-science-agriculture/biology/bs/zoology-emphasis-four-year-plan/>)

## FACULTY AND LECTURERS

Additional information about the Faculty and Lecturers below may be found in the Faculty and Academic Staff (<https://catalog.uwplatt.edu/faculty-academic-staff/>) section of this catalog.

Cornett, Catherine A.

Dhyanchand, Richard J.

Doyle-Morin, Rebecca

Frieders, Elizabeth M.

Haasl, Ryan J.

Horton, Mark

Huebschman, Jeffrey J.

Klavins, Sharon D.

Levenstein, Mark E.

Olson, David J.

Peterson, John D.

Stankovich, Wendy S.

Trewin, Amanda L.

Weber, Wayne C.

Wright, Kristopher K.