



Biology

What is Biology?

Biology is the study of life (It's hard to get any better than that)! The study of biology is truly immense, including different forms of life ranging from the microscopic, such as bacteria, to much more complex forms like the tree outside, or you and I. Biologists study these different forms of life, their interactions, and life processes.

Because the field of biology is so immense, there are many different types of biologists. These include, but are not limited to:

- Botanists- study plants
- Zoologists- study animals
- Entomologists- study insects
- Ecologists- study how organisms interact with each other and the environment
- Geneticists- study inheritance and gene expression
- Cell/Molecular Biologists- study cell and gene structure and function at a molecular level
- Microbiologists- study bacteria
- Physiologists- study organism physiology

Obviously, these disciplines are not mutually exclusive, and indeed, their interaction is necessary in the pursuit of understanding life.

The primary objectives of the biology major at UWP are:

- 1) to stimulate an appreciation for biology
- 2) to prepare students with practical and theoretical knowledge
- 3) to develop intellectual and manipulative skills to function in a specific area of biology. Many graduates go on to pursue advanced training in graduate and professional schools (medical, chiropractic, dental, physician assistant and many others) and/or careers in biotechnology, wildlife biology, ecology, forestry and other areas.

Degrees Offered

UW-Platteville offers a baccalaureate degree in biology. Students pursuing this degree can take one of two routes: a non-emphasis route where students can tailor their program to fit their own particular needs or a comprehensive emphasis route where students get an in depth study in particular areas. The emphasis areas are Biohealth/Physiology, Botany, Cytotechnology, Ecology, Molecular/Genetics, Secondary Education and Zoology. The department also offers minors in Biology and Biotechnology.

Preprofessional Programs

The Department of Biology, through the College of Business, Industry, Life Science and Agriculture, offers a variety of preprofessional programs in the healthcare fields including chiropractic, cytotechnology, dentistry, medical technology, medicine, nursing, occupational therapy, optometry, osteopathy, physician assistant, physical therapy and podiatry. Each preprofessional student in these fields is assigned to a faculty adviser who is informed about a particular professional field and the requirements for professional school admission. A high percentage of UW-Platteville preprofessional students are regularly accepted by professional schools.

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Faculty and Facilities

The biology faculty at UW-Platteville reflects a broad background of academic and professional experience. Areas of specialization range through microbiology, anatomy, physiology, mycology, molecular biology, taxonomy, genetics, ornithology and field biology, and encompass such interests as cell biology, immunology, biotechnology and electron microscopy. The research activity of biology faculty members involves effects of cesium and rubidium salts on colon cancer, biological nitrogen fixation in legume root nodules, human molecular phylogenetics, gene expression in developing cloned cow embryos, reproductive physiology, community and stream ecology, plant parasitic fungi and study of flora and fauna of the tri-state area and of such distant places as Australia, Mexico and Central America.

The Biology Department's facilities are located on the second and third floors of Leo E. Boebel Hall and Russell Hall. These include a lecture room, general and advanced labs in biology, botany, zoology and microbiology and a fully equipped cadaver lab. Special features include a built-in greenhouse, herbarium, live-animal care room, a computer lab, a molecular lab, a room for controlled temperature units, chemical storage room and research facilities utilizing various microscopes: interference, polarizing, fluorescence, and electron.

Degree Requirements

All biology students will take the following required core courses providing a fundamental background in biology and the associated sciences. Students will then choose advanced electives to complete their respective emphasis or non-emphasis areas. A grade of "C" or better is required for all biology courses and the *Supporting Core Courses*.

- 1) Required Core Courses (19 cr)
BIOL 1020 BioQuest:
 - Foundations for College Success 1 cr
 - BIOL 1650 Unity of Life 5 cr
 - BIOL 1750 Diversity of Life 5 cr
 - BIOL 2420 FBI: Fundamentals of Biological Investigations 2 cr
 - BIOL 3330 Genetics 3 cr
 - BIOL 3450 Ecology and Evolution 3 cr
- 2) Required Biology Capstone Experience- Choose ONE of the following (1 cr):
 - BIOL 4970 Senior Thesis 1 cr
 - BIOL 4990 From Atoms to Ecosystems- The Study of Life 1 cr
- 3) Required Supporting Core Courses (11 cr):
 - CHEM 1140 General Chemistry I 4 cr
 - CHEM 1240 General Chemistry II 4 cr
 - MATH 1830 Elementary Statistics 3 cr

Scholarships

Each of four Leo E. Boebel Biology Scholarships provides full tuition to a biology major who has graduated from high school in any of the Wisconsin counties of Grant, Iowa, Lafayette, Richland, Crawford or Vernon, and who has demonstrated need

and academic excellence. The award may continue throughout the recipient's undergraduate career at UW-Platteville.

Each of three Leo E. Boebel Pre-Professional Scholarships provides full tuition to a preprofessional student in any of the health fields with the same residency requirements as above. Biology majors also apply for the Biology Alumni Scholarships and other university and College of Business, Industry, Life Science and Agriculture scholarships. In addition, the biology department is proud to award over \$5,000 a year through several biology scholarships supported by generous donations of our alumni. Part-time employment in the department is available for a limited number of students who qualify for regular or work-study student help. Part-time employment is also available on campus and in the city of Platteville.

Career Opportunities

Biology graduates find jobs in many areas: teaching at the secondary school level; with the Department of Natural Resources as fish, game and range managers; with zoos, botanical gardens, hospitals, service and research laboratories, and pharmaceutical and biological supply companies; and as foresters, herbarium curators, animal behaviorists, electron microscope technicians, biomedical engineers, genetic counselors, zoo assistants, ecologists, and aquatic biologists. Others may go on to graduate schools for advanced degrees.

Many of our graduates, after two to four years at Platteville, seek admission to professional schools to earn degrees in medicine, nursing, dentistry, occupational therapy, physical therapy, osteopathy, podiatry, optometry and chiropractic medicine. In the last five years, about 90 percent of our preprofessionals that have applied have been accepted in professional schools, and the percentage of our biology graduates that have obtained employment in the areas of their specialization has also been quite good.

High School Preparation

As a high school student considering a career in the biological sciences, you must complete courses in biology, chemistry and mathematics. You also should develop your reading, writing and spelling skills. You should also take advantage of the opportunity to take computer science and foreign language courses.

For More Information

For more information write to the Department of Biology, University of Wisconsin-Platteville, 1 University Plaza, Platteville, Wisconsin 53818-3099, or call (608) 342-1793.

For general information on the university and its programs, consult the Web site at www.uwplatt.edu or contact UWP Prospective Student Services, University of Wisconsin-Platteville, 1 University Plaza, Platteville, WI 53818-3099, or call toll-free 1.877.897.5288 or locally 608.342.1127.

Suggested Course of Study

First Year

First Semester

Biol 1020	BioQuest	1
Biol 1650/1750	Unity or Diversity of Life	5
Engl 1130	Freshman Composition	3
Math up to 1530 (if necessary)		3
	Social Science Elective	3
	Physical Education Elective	1
	Total	16

Second Semester

Biol 1650/1750	Unity or Diversity of Life (alternate course from first semester)	5
Engl 1230	Freshman Composition	3
	Humanities General Elective	3
Math 1830	Elementary Statistics	3
	Social Science Elective	3
	Total	17

Second Year

First Semester

Biol 2420	FBI: Fund. of Biol. Investigations	2
Chem 1140	General Chemistry	4
	Advanced Biology Elective	3-4
	Humanities Elective	3
Spch 1010	Public Speaking	2
	Physical Education Elective	1
	Total	15-16

Second Semester

	Advanced Biology Electives	3-4
Chem 1240	General Chemistry	4

General Electives	6-9
Physical Education Elective	1
Total	14-16

Third Year

First Semester

Biol 3330	Genetics	3
	Advanced Biology Electives	3-10
	General Electives	3-9
	Total	15-16

Second Semester

Biol 3450	Ecology and Evolution	3
	Advanced Biology Electives	3-10
	General Electives	3-9
	Total	15-16

Fourth Year

First Semester

Advanced Biology Electives	3-10
General Electives	3-9
Total	15-16

Second Semester

Biol 4970/4990	Senior Thesis -or- From Atoms to Ecosystems	1
	Advanced Biology Electives	3-10
	General Electives	3-9
	Total	15-16

The University of Wisconsin-Platteville does not discriminate on the basis of age, race, creed, color, handicap, sex, sexual orientation, developmental disability, national origin, ancestry, marital status, arrest record or conviction record.