



# BIOLOGY

## Eberly College of Arts and Sciences

The Department of Biology is dedicated to the study of living organisms and the processes of life. The faculty, staff, and students engage in activities that promote discovery in the advancement of knowledge and support the University community and profession. Structured to provide basic knowledge of plants and animals at all levels of biological organization, the biology curriculum prepares students for professional careers in the life sciences and health sciences.

Courses are offered in cellular and molecular biology, integrative organismal biology, and environmental and evolutionary biology. Whatever career area students choose, it is important that they become self-motivated and independent learners. To encourage and develop these skills, students take the Total Science Experience Laboratory (Biology 321), which provides first-hand experience in the process of biological research. Increasing numbers of undergraduates are turning to the individualized “hands-on” research experience to strengthen their biology education.

The department offers two options to attain research experience beyond the core curriculum: Undergraduate Research (Biology 386) and Honors Research (Biology 486). These courses allow students to work one-on-one with a faculty mentor and undertake an independent research project in the laboratory or the field. Students who complete three semesters of Biology 486, present their thesis, and maintain an appropriate GPA, graduate with honors in Biology. The undergraduate Biology Program has been recognized as a Program of Excellence at West Virginia University.

### Eberly College of Arts and Sciences

The Eberly College of Arts and Sciences is the largest and most diverse academic unit within West Virginia University. Hundreds of faculty and staff are involved in educating and supporting the efforts of more than 7,000 students (nearly one-fourth of the WVU student body) who are majoring in one or more of 63 undergraduate and graduate programs offered by the College’s academic departments and divisions. The College’s academic units and research facilities are housed in 14 buildings on the WVU campus. The Dean’s Office is in historic Woodburn Hall. The College and its Department of Biology also maintain the Core Arboretum, a 75-acre wooded tract adjacent to the Monongahela River.

### Admission

If University admission requirements are met, a student may be accepted as a Pre-Biology major. Upon completion of 30 credit hours with at least a 2.0 cumulative GPA and at least a 2.0 GPA in a minimum of twelve hours of biology courses, a student may apply for admission to the Department of Biology.

### Accreditation

WVU is fully accredited by the North Central Association of Colleges and Schools.

### Scholarships

The Department of Biology awards the Ethel C. Montiegel Scholarship to an outstanding junior in biology each year. A limited number of annual Hurlbutt Scholarships for supplies or travel expenses are available to students conducting independent research.

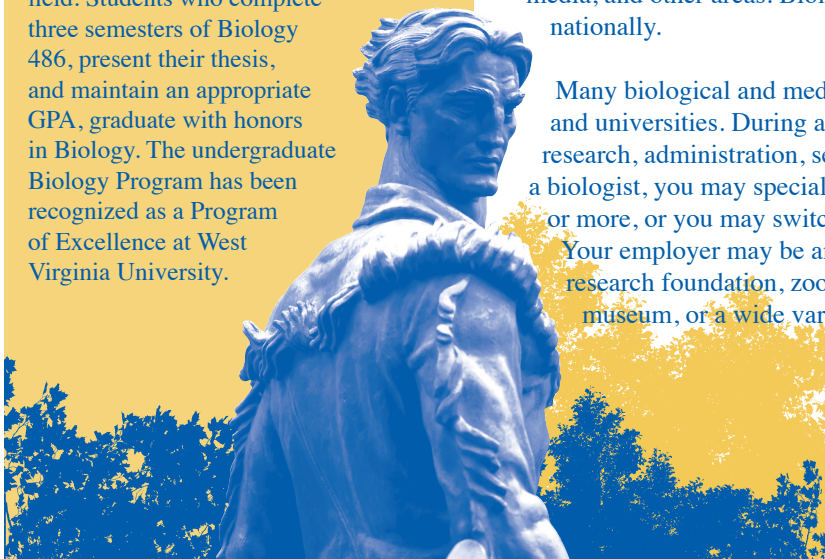
### Career Opportunities

Biology is the most popular major for students wishing to enter medical school. In recent years, medical school acceptance levels for students from the Department of Biology have been higher than the national average. However, medicine is not the only career path open to students with a biology degree. A degree in biology opens the door to a wide array of career paths. As biotechnology and environmental issues enter all facets of everyday life, individuals with a background in biology are in demand well beyond the traditional areas of medicine, public health, research, and related fields. Students of biology are now finding opportunities in law, business, the media, and other areas. Biological and medical scientists hold about 117,000 jobs nationally.

Many biological and medical scientists also hold faculty positions in colleges and universities. During a lifetime career, a bioscientist may engage in teaching, research, administration, service work, or industrial production. If you become a biologist, you may specialize in one of these activities or a combination of two or more, or you may switch from one to another at various stages in your career. Your employer may be an educational institution, government installation, private research foundation, zoo, botanical garden, aquarium, arboretum, natural history museum, or a wide variety of industrial or business concerns.

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### Graduate School Opportunities

For biological scientists, a doctoral degree is generally required for college teaching, independent research, and advancement to administrative positions. A master of science degree is sufficient for some jobs in applied research and for jobs in management, inspection, sales, and service. Biological scientists who have advanced degrees usually begin in research or teaching. With experience, they may become managers or administrators within the field; others leave for nontechnical managerial, administrative, and sales jobs. WVU offers master's and doctoral degrees in Biology.

### Salary Range

According to the 2001 National Association of Colleges and Employers Salary Survey, the range of starting salaries for a bachelor's degree was \$30,116 to \$41,000.

### Curriculum

During the first four semesters as a Pre-Biology major, a student should successfully complete four required biology courses: Biology 115, 117, 219, and 221. At the same time, the student should be taking the basic requirements in mathematics, chemistry, and physics necessary to succeed as a biologist. As students enter the Department of Biology in their third year, they are encouraged to begin structuring their curriculum to meet their particular career goals and to ensure graduation in four years. For those interested in preparing for medical school or other related health careers, a broad range of options exist. Students are strongly recommended to take advanced courses in cellular and molecular biology and biochemistry if

### Majors in the Eberly College of Arts and Sciences

Biochemistry/Biology:	B
Biochemistry/Chemistry:	B
Biology:	B, M, D
Chemistry:	B, M, D
Communication Studies:	B, M, D
Computer Science:	B
Creative Writing:	M
Criminology & Investigations:	B
Economics:	B
English:	B, M, D
Environmental Geoscience:	B
Foreign Languages:	B, M
Forensic & Investigative Science:	B, M
Geography:	B, M, D
Geology:	B, M, D
History:	B, M, D
Individualized Major:	B
Industrial Mathematics & Statistics:	B
International Studies:	B
Legal Studies:	M
Liberal Arts & Sciences:	B
Liberal Studies:	M
Mathematics:	B, M, D
Multidisciplinary Studies:	B
Philosophy:	B
Physics:	B, M, D
Political Science:	B, M, D
Professional Writing & Editing:	M
Psychology:	B, M, D
Public Administration:	M
Regents Bachelor of Arts:	B
Religious Studies:	B
Slavic & East European Studies:	B
Social Work:	B, M
Sociology:	M
Sociology & Anthropology:	B
Statistics:	M
Women's Studies:	B

B = bachelor's; M = master's; D = doctorate

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they wish to pursue a medical career. These areas best prepare for a successful medical education. In addition, students on this career path have a range of more classical courses, such as comparative anatomy and microanatomy, which provide a solid foundation for medical school.

The burgeoning area of biotechnology also provides a significant number of career paths for biology majors. For students interested in biotechnology and cellular and molecular biology, the Department of Biology offers a wide range of courses, including advanced cellular and molecular biology, DNA technology, molecular genetics, molecular endocrinology, and other relevant specialized courses. For those who want to pursue a career in environmental biology, there are many courses available, including plant ecology, biometry, behavioral ecology, plant population biology, quantitative genetics, global ecology, and plant physiology.

