West Chester University
of Pennsylvania

BIOLOGY

UNDERGRADUATE FACT SHEET

The Department of Biology offers a number of degree programs that will prepare you for careers in biological, environmental, medical, and clinical fields. The curriculum for all of these programs contains the following core courses that introduce you to the unifying principles of biology: general biology, cell physiology, genetics, and two of three courses in botany, microbiology, and zoology.

According to your career or graduate school objectives, you can choose from a variety of upper-division biology courses. These elective courses offer you laboratory and field experiences in various specialized areas of biology.

Career Opportunities

Those graduating with one of the degrees offered by the Department of Biology are qualified to enter the areas of education, environmental consulting, health care, law, pharmaceuticals, and publishing, as well as industrial, microbiological, biomedical, and biotechnology research. An undergraduate degree in biology also prepares you to enter professional schools of dentistry, medicine, osteopathy, physicians assistant, physical therapy, and veterinary medicine. Graduate study in other related areas is also an option for those completing the baccalaureate program.

Graduates of the department have found employment at the following companies:

Endo
E.I. DuPont
ERM, Inc.
Lankenau Hospital
Merck and Company
Smith Kline Beecham
Weston Solutions
Wyeth Ayerst

Graduates of the department have been accepted into the following graduate/professional schools:

Arcadia University
North Carolina State University
Pennsylvania College of Osteopathic Medicine
The Pennsylvania State University
Princeton University
Rutgers – The State University
Temple University
Thomas Jefferson University
Tufts University
University of California, Davis
University of Maryland
University of Massachusetts
University of New Hampshire
University of North Carolina
University of Pennsylvania
University of Pennsylvania Veterinary School
University of Southern California
University of Virginia
Washington State University
Yale University

Undergraduate Degrees

Bachelor of Arts and Bachelor of Science in Biology. Both degrees prepare you for a variety of careers or entry into graduate or professional schools, including physician assistant and physical therapy programs. You also can pursue further training toward careers in business, law, and writing.

Bachelor of Science in Biology – Cell and Molecular Concentration. Graduating from this program will prepare you to do laboratory work or graduate study in molecular aspects of biology, including biotechnology and forensic DNA analysis. This degree also will prepare you for entry into medical programs.

Bachelor of Science in Biology – Ecology Concentration. This degree prepares you to work for private, nonprofit, or government groups that study the environment. It also provides you with the preparation needed to work in parks, conservation areas, and wildlife management fields.

Bachelor of Science in Biology – Marine Biology Concentration. This degree provides students with a strong background in marine biology ranging from marine organisms to biotechnology and oceanography interests from the coastal waters to deep oceans. The required core curriculum and electives allow students to draw on educational resources at West Chester University and marine field stations, such as the Wallops Island Marine Science Consortium in Virginia. Course work emphasizes techniques in biological sciences, oceanography, chemistry, physics, and mathematics. Field and laboratory courses form a strong foundation of this program, and students are encouraged to engage in directed research projects or internships.

Bachelor of Science in Biology – Medical Technology Concentration. This program offers you the opportunity to enter the field of laboratory medicine with emphasis on the techniques and instrumentation used to evaluate disease processes. This concentration allows you to complete the necessary general education and department requirements in three years. You will spend the fourth year in a hospital internship-training program and receive credit to complete your degree. To qualify for the internship, you must have a 2.75 GPA and be accepted by an accredited hospital medical technology program. Those completing the internship receive a B.S. in biology – medical technology concentration and the training necessary to take the national certification exam. Affiliated hospitals include St. Christopher's Hospital for Children, Pennsylvania Hospital, and Lancaster General Hospital.

Learn More

UNDERGRADUATE FACT SHEET

Bachelor of Science in Biology – Microbiology Concentration. This degree prepares you to work in hospitals, clinics, laboratories, and industries that deal with microbiology.

Bachelor of Science in Education – Biology. This degree leads to a Pennsylvania Instructional I Certificate and prepares you to teach biology in public and private secondary schools. You also will be prepared to work for private or government groups that provide public science education programs, such as wildlife sanctuaries, zoos, and botanical gardens, or to pursue graduate study in biology or education. This degree requires 126 credits for graduation, as opposed to the other bachelor's degrees in biology that require 120 credits.

Examples of Upper-Division Biology Courses

Animal Development
Animal Histology
Cell and Molecular Biology
Comparative Vertebrate Anatomy
Comparative Vertebrate Physiology
Conservation Biology
Epidemiology
Freshwater Ecology
Functional Animal Morphology
Immunology
Marine Biology
Marine Botany
Microbial Physiology
Molecular Genetics
Plant Evolution
Plant Physiology
Population Biology
Recombinant DNA Technology
Systematic Botany
Virology

Minor

The minor in biology is offered so you can pursue an interdisciplinary program of study that meets unique or specific career objectives.

Facilities

The Department of Biology is located in Schmucker Science Center North and the University's newest science facility, Merion Science Center. Merion contains five teaching laboratories for biology: a cell physiology laboratory, a systemic physiology laboratory, an anatomy laboratory, an immunology/virology laboratory, and a tissue culture laboratory. In addition, the department has a P3-level tissue culture facility, as well as appropriate instrumentation for ultra centrifugation, radioisotope counting, and standard cellular and molecular biology techniques.

Other equipment available for your use as a student include specialized microscopes for tissue/cell visualization, instrumentation for DNA sequencing and analysis, and numerous environmental incubators.

Special Study Opportunities

You are encouraged to participate in laboratory and field independent research projects. Internships are available for seniors in local businesses, laboratories, and field stations.

Faculty

You can obtain a complete listing of faculty and their academic qualifications for this program from the department's web page at darwin.wcupa.edu or from the contact persons listed below.

Related Student Activities

The Darlington Biological Society

For More Information

Dr. Jack Waber, Chairperson or
Dr. Giovanni Casotti, Assistant Chairperson
Department of Biology
175 Schmucker North
West Chester University
West Chester, PA 19383
610–436–2538
Web page: http://bio.wcupa.edu/biology/index.php
Undergraduate Catalog: http://www.wcupa.edu/_information/official.documents/undergrad.catalog/

Information on Admission

Office of Admissions

Emil H. Messikomer Hall, 100 West Rosedale Ave.
West Chester University, West Chester, PA 19383
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WCU home page: www.wcupa.edu
Facebook: www.facebook.com/wcupa

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