

# ENVIRONMENTAL PROGRAMS

If you are interested in the study of the environment, you have a wide variety of curricular options from which to choose at West Chester University, ranging from formal degree programs to general-interest course work. Environmental study is not centralized in one academic department on campus, so after reviewing the information below, you are encouraged to contact the specific department offering the program of particular interest.

## Career Opportunities

There is a continuing need for environmental professionals throughout the country, and especially in the tri-state Delaware Valley area. As a graduate, you can find employment in the public sector as well as in private corporations and nonprofit agencies. Organizations that have hired environmental professionals from West Chester University include the following:

Chester County Health Department  
Chester County Planning Commission  
Pennsylvania Department of Environmental Protection  
U.S. Environmental Protection Agency  
U.S. Geological Survey

As an environmental graduate from West Chester University, you will engage in work as varied as the programs of study. Typical activities include sampling water, air, and soils for environmental pollutants; conducting ecological surveys of plant and animal communities; studying the design and operation of pollution control facilities; ensuring compliance with environmental laws; mapping environmental data; teaching; and responding to environmental emergencies. Graduate study also is an option that you can pursue.

## Undergraduate Degrees/Certification

### Bachelor of Arts in Geography–Environmental Track.

This track focuses on the study of the spatial distributions and spatial relations within the human–environment system. The department environmental track affords majors opportunities to take course work related to sustainability to understand the world's landscape and how it has been transformed or altered by either the earth's natural processes or human modifications. This track prepares students for a number of career choices and for graduate study in geography, sustainability science, environmental science, landscape ecology, earth sciences, environmental planning, or related disciplines.

**Bachelor of Science in Biology – Ecology and Conservation Concentration.** Offered by the Department of Biology, this program provides a strong background in theoretical and applied ecology and conservation, with an emphasis on field experience. It prepares students for careers as biologists in state and federal environmental agencies, industry, environmental consulting firms, and land conservancies, as well as graduate work in ecology and conservation.

**Bachelor of Science in Geoscience – Geology and Earth Systems Concentrations.** The Department of Geology and Astronomy prepares you for successful careers as geologists

working in the thriving environmental industry of the greater Philadelphia area. Geoscientists evaluate the environmental quality of water and earth materials, address wastewater and stormwater management, assess risk from natural hazards, and identify new and sustainable sources of energy and earth resources. The core curriculum emphasizes areas pertinent to environmental work such as earth materials, geochemistry, geologic structures, soils, and hydrogeology. Courses incorporate hands-on training in field methods, computer modeling, and cutting-edge scientific instruments as well as service-learning projects on environmental issues. Research projects with faculty and internships are strongly encouraged. The B.S. in geoscience degree program course work meets the education requirements of the Registered Professional Geologist license. With advisement, you can complete both the B.S. and master's degree programs within five years. Hundreds of alumni are successfully employed in the region as environmental consultants, researchers, and regulators. The department draws on alumni as resources for current students through its Alumni Careers Panel, Career Skills Workshop, and Open House.

### Bachelor of Science in Public Health – Environmental Health.

The Department of Health offers this program if you are interested in preserving indoor and outdoor environmental quality (air, water, and land) as a means of protecting human health. The environmental health discipline requires preparation in the sciences and math followed by specialized environmental health courses in areas including toxicology, epidemiology, industrial hygiene, risk assessment, and environmental regulations. You will apply your learning in hands-on laboratory courses and through field work. All students are placed in a one-semester senior internship that is arranged and closely supervised by faculty. These internships enhance students' opportunities for full-time employment.

**Certification Program in Environmental Education.** This interdisciplinary program, offered by the Department of Professional and Secondary Education, enables you as a teacher-education major to secure certification to teach and administer environmental education programs. The certification is K–12, and you must be enrolled in or have completed a teacher-certification program in an area other than environmental education. The curriculum is a mixture of existing courses from the physical, social, and behavioral sciences, as well as courses specifically designed for the environmental educator. If you wish to explore this program, you should consult with the coordinator of environmental education.

In addition to these formal degree/certification programs, you can pursue environmental study as part of the programs leading to the B.S. in geoscience offered by the Department of Geology and Astronomy, and the B.A. in geography offered by the Department of Geography and Planning.

### Minor in Environmental Health

The environmental health minor provides an opportunity for those in a wide range of majors to learn more about how the environment affects human health and how to protect people

# UNDERGRADUATE FACT SHEET

from environmental hazards. The curriculum for this 18-credit minor includes three required courses in essential environmental-health areas and three other approved, environmental elective courses. You can use this knowledge in your daily life and apply it to the practice of your major field of interest. Concepts and skills learned in these courses can enhance your professional career. Contact the Department of Health for more information about this minor.

## Advanced Degrees

If you are interested in ecology, you may emphasize this area within the M.S. in biology degree. You also may concentrate in land management and conservation within the M.A. in geography degree. For those interested in human health protection, the master of public health (M.P.H.), offered by the Department of Health, features a focused elective track in environmental health, as well as a graduate certificate in emergency preparedness in public health. Students with or without an undergraduate degree in geology can enter the nonthesis master's program in geoscience offered by the Department of Geology and Astronomy, with one track designed specifically for working or aspiring professional geoscientists.

## Typical Courses

Eight departments across the University offer more than 100 environmental courses ranging from introductory classes for nonmajors to advanced graduate courses. Courses include the following:

- Bioterrorism, Biocrises, and Public Health
- Conservation of Natural Resources
- Conservation Biology
- Emergency Preparedness
- Environmental and Resource Economics
- Environmental Conservation
- Environmental Crises
- Environmental Geochemistry
- Environmental Geology
- Environmental Regulations
- Environmental Toxicology
- Freshwater Ecology
- General Ecology
- Hazardous and Solid Wastes
- Hazardous Waste Operations and Emergency Response
- Humans and the Environment
- Hydrology
- Industrial Hygiene I and II
- Introduction to GIS
- Land-Use Planning
- Limnology
- Risk Assessment
- Water Quality and Health
- Wetlands

## Special Study Opportunities

Under a special partnership with the Amazon Center for Environmental Education and Research (ACEER), you may participate in credit and noncredit workshops, internships, and faculty-student research projects in the Amazon rainforest and the cloud forest of the Andes Mountains of Peru. Workshop topics include rainforest ecology, cloud

forest ecology, tropical water quality, environmental education, tropical medicine, botanical medicine, and more. Internships and research are hosted at ACEER's environmental centers near Puerto Maldonado, Cusco, and Iquitos. Visit [www.aceer.org](http://www.aceer.org) for more information.

Extensive laboratory and computing facilities exist to support environmental study on campus. These include the Center for Microanalysis and Imaging Research and Training (CMIRT) with electron beam and X-ray instruments, a portable X-ray fluorescence spectrometer for on-site analysis of heavy metals, bioassay, ecology, and soil preparation labs, geographic information systems (GIS) labs, and an environmental-health analytical laboratory with state-of-the-art instrumentation. In addition, the 100-acre Robert B. Gordon Natural Area for Environmental Studies, located on South Campus, is a nexus of cross-departmental, interdisciplinary environmental research by faculty and students. For programs requiring internships, an extensive network of placement sites within government and industry exists.

## Related Student Activities

Many departments have student majors clubs, and all students on campus can participate in the Earth Club and the Sustainability Advisory Council (<http://www.wcupa.edu/sustainability/sustainability.asp>). In addition, a series of lectures and guest presentations on environmental themes is given throughout the year, including the annual GordonFest in the fall.

## Faculty

You can obtain a complete listing of environmental faculty from the departments listed below. If writing, add West Chester University, West Chester, PA 19383.

## For More Information

### Ecology

Department of Biology  
175 Schmucker North • 610-436-2538

### Environmental Education

Department of Professional and Secondary Education  
207B Recitation Hall • 610-436-2958  
[http://www.wcupa.edu/\\_academics/coed/departments/profsecedu/](http://www.wcupa.edu/_academics/coed/departments/profsecedu/)

### Environmental Geography

Department of Geography and Planning  
103 Ruby Jones Hall • 610-436-2343  
[http://www.wcupa.edu/\\_academics/sch\\_sba.geo/EnvironmentalTrack.asp](http://www.wcupa.edu/_academics/sch_sba.geo/EnvironmentalTrack.asp)

### Environmental Health

Department of Health  
207 Sturzebecker Health Sciences Center • 610-436-2931  
[http://www.wcupa.edu/\\_academics/healthsciences/health/](http://www.wcupa.edu/_academics/healthsciences/health/)

### Geoscience

Department of Geology and Astronomy  
207 Merion Science Center • 610-436-2727  
[http://www.wcupa.edu/\\_academics/sch\\_cas.esc/](http://www.wcupa.edu/_academics/sch_cas.esc/)

Undergraduate Catalog: [http://www.wcupa.edu/\\_information/official\\_documents/undergrad.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  
610-436-3411 • Toll-free: 1-877-315-2165  
E-mail: [ugadmiss@wcupa.edu](mailto:ugadmiss@wcupa.edu)  
WCU home page: [www.wcupa.edu](http://www.wcupa.edu)  
Facebook: [www.facebook.com/wcupa](http://www.facebook.com/wcupa)