COMMUNITY OF THE UNIVERSITY OF DELAWARE

ENVIRONMENTAL SCIENCE

DELAWA RE’S ENVIRONMENTAL SCIENCE PROGRAM

Housed in the Department of Geography within the College of Earth, Ocean, and Environment, the interdisciplinary Bachelor of Science in Environmental Sciences is a multidisciplinary program involving several departments and colleges.

The Bachelor of Science in Environmental Science emphasizes a broad scientific understanding of the character, function, and analysis of environmental systems. Many of our students are motivated by awareness of environmental problems such as pollution of the atmosphere and oceans, habitat degradation and species extinction, scarcity of essential resources, and implications of global climate change and associated impacts. Environmental Science graduates formulate solutions to, and enhance society's understanding of problems that arise from human occupancy and use of the planet and environment.

WHAT’S SPECIAL ABOUT THE PROGRAM?

The program’s goal is to give students in the program a broad-based, interdisciplinary introduction to the scientific concepts, policies, and issues; the common analytical tools needed to explore environmental issues in depth through their specific concentration areas; and the ability to integrate and synthesize information from a multidisciplinary perspective in oral and written format through the capstone course. Because the problems that we study affect and are affected by everything on the planet, students take courses to give them a breadth of understanding of the environment, while also focusing study on a specific aspect of the environment through one of ten concentrations.

The BS in Environmental Science program is rigorous in both math and science and includes courses in social science and policy that will help the environmental science major understand the societal context of his/her work. This foundation along with their specific concentration area helps students appreciate the interconnectedness between understanding natural science processes and their applications and the social, political, and institutional frameworks in which environmental issues are considered.

The program emphasizes scientific understanding of the character and function of working, natural, environmental systems. Because environmental problems and issues change as new problems arise, the program places its strongest emphasis on the research methods and fundamental scientific background used for analyzing the environment. This assures that the skills our students acquire remain relevant and useful in the changing world even when new problems arise or a refined understanding of ongoing problems emerges.

FACILITIES, RESOURCES, AND OPPORTUNITIES FOR EXPERIENCE

Early in the program, students take a wide range of introductory lab science and mathematics to acquire scientific background and skills needed for research. Each student is also required to select one of ten specialized concentrations designed to advance his/her understanding in a focused aspect of the environment. A defining characteristic of many environmental problems is that we cannot control every experiment in a laboratory but must measure natural systems over which we have no control. Therefore, every environmental science student is required to take at least one course involving field research, and many students engage in internships, summer programs, and research projects to enhance their fieldwork experience. Besides courses in Newark, our students take advantage of potential field experiences at the Hugh R. Sharp Campus, our marine research facility in Lewes or in an environmentally related study abroad experience that meets the requirements of the field experience. The program is flexible about accepting field-oriented summer and winter travel and research courses from other programs as part of our electives (but always have these checked and approved before taking them).

TYPICAL CAREER PATHS

Many of the tools our students acquire in this program provide excellent, marketable job skills that set you apart from others. Our students are attractive to prospective employers and graduate schools because of the experiences they have had with field data collection, laboratory work, and analysis of data using statistical or computational methods and geographic information systems (GIS). Based on previous surveys, some post-graduation activities include:

- Graduate and Professional School in science areas including marine biology, geology, geochemistry, environmental chemistry, climatology, as well as environmental policy programs and law schools.
- Private-sector employment in environmental consulting and environmental engineering, health-care research (using statistical and research tools taught in this program), workplace environmental monitoring, and
environmental regulation compliance.

- Public-sector employment includes working with state and county agencies that regulate land use, water resources, and pollution. Additionally, some students pursue interests in environmental education, public awareness, and environmental advocacy, both with government-sponsored agencies and with non-governmental organizations.

**THE ENVIRONMENTAL SCIENCE CURRICULUM**

**Bachelor of Science in Environmental Science**

**General and University Requirements:**
- ENGL 110 Critical Reading & Writing (min grade C–) 3
- First Year Experience 1
- University Breadth Requirements 12
- Discovery Learning Experience 3
- Multicultural requirement 3
- Second Writing Course 3
- Foreign Language 0-12

**Program Breadth Requirements:**
- Group A Creative Arts and Humanities 3
- Group B History and Culture Change 3
- Group C Social and Behavioral Sciences 3

**Core Requirements:**
- ENSC 101 Introduction to the Environment 3
- BISC 207 Introductory Biology I 4
- BISC 208 Introductory Biology II 4
- ENWC 201 Wildlife Conservation and Ecology 3
- CHEM 103 General Chemistry I 4
- CHEM 104 General Chemistry II 4
- GEOL 107 General Geology 4
- GEOG 220 Meteorology 3
- GEOG 412 Physical Climatology 4
- MAST 482 Introduction to Ocean Science 3
- POSC 350 Politics and the Environment 3
- FREC 100 Sustainable Development 3
- MATH 241 Analytical Geometry & Calculus A 3
- MATH 242 Analytical Geometry & Calculus B 3
- GEOG 271 Introduction to Geographic Data Analysis 4
- PHYS 201 Introductory Physics I OR
  PHYS 207 Fundamentals of Physics 4

**Field Experience:**
- An approved 3-6 credit science field experience in which the student integrates the components of his or her concentration in an experiential learning environment. Experience MUST include data collection, manipulation of data sets and weekly reports/field notes. This requirement can be fulfilled by an internship, study abroad experience and/or a research experience so long as the above criteria are met.

**Science Concentrations:**
- 5-6 courses clustered in concentrations that are distributed throughout the colleges and across disciplines (see list below)

**Capstone Course:**
- ENSC 450: Proseminar: The Environment
  This 3 credit capstone course serves as a culminating experience and is to be completed during the last semester of the senior year. This course will engage students in an exploration and discussion of the history and state of environmental studies and its connection to local, regional, national and global scale environmental issues. Students will develop and refine critical thinking skills and interdisciplinary problem-solving strategies. It serves to be a culminating experience for students on the “science-side” and the “studies-side” to collaboratively solve problems and discuss issues in the current environmental literature.

**Electives:**
- After required courses are completed, sufficient credits must be taken to meet the total minimum credits required for the degree.

**Total Credits for Degree:**
- 124

**Environmental Science Concentrations:**
- Atmospheric Science
- Ecology and Organismal Biology
- Environmental Chemistry
- Environmental Soil Science
- GeoScience
- Hydrology
- Marine Science
- Pollution Control
- Sustainable Energy Technology
- Water Quality and Resources

**EXAMPLE OF A FRESHMAN YEAR**

**FALL**
- FYE class
- ENSC101
- BISC 207 and CHEM 103
- or
- CHEM 103 and MATH 241
- Foreign Language, Breadth or ENGL 110

**SPRING**
- CHEM 104 and BISC 208
  or
- CHEM 104 and MATH 242
- GEOL 107
- Foreign Language, Breadth or ENGL 110

**FOR MORE INFORMATION**

You are always welcome to come talk with us about our programs and ways in which we can help you reach your goals. Feel free to contact us at:

- Environmental Science Program
c/o Geography Department
216 Pearson Hall
University of Delaware
Newark, DE 19716
Ph: (302) 831–2294
Fax: (302) 831–6654
TDD: (302) 831-4563
Dr. Del Levia, Program Director at dlevia@udel.edu
www.udel.edu/Geography

- Admissions Office
University Visitors Center
210 South College Avenue
University of Delaware
Newark, DE 19716
(302) 831-8123
(302) 831-6905
(302) 831-4563
admissions@udel.edu
www.udel.edu/admissions