

Environmental Science

Environmental issues, including everything from resource scarcity to climate change to water quality, are at the forefront of most of the political debates and world issues today. Environmental scientists investigate and seek out natural solutions to environmental problems. To solve water quality issues, they look at the sources of pollution and find new ways to stop the pollution at its source or how to use natural systems, like wetlands, to clean and filter the water. They investigate the health and sustainability of soils to grow food and look at ways to restore ecosystems and conserve natural treasures.

Pursuing Environmental Science at Ohio State

All freshman applicants are considered within a competitive admission process for the Columbus campus; find admissions criteria at go.osu.edu/admissions.

Students interested in environmental science should have an excellent high school foundation of math and both natural and physical sciences as well as strong written and verbal communication skills.

Admitted students can directly enroll as majors in environmental science within the School of Environment and Natural Resources. A student's first year will include several foundational courses in environment and natural resources as well as general education requirements such as mathematics, chemistry, biology, the humanities, etc.

The following foundational courses provide an initial exposure to an array of issues that impact natural resources, focusing on physical and natural sciences as well as the social sciences.

- Introduction to Environmental Science
- Society and Natural Resources
- Introduction to Forestry, Fisheries and Wildlife
- Introduction to Soil Science

Specializations in Environmental Science

Students in the **Ecosystem Restoration** specialization study how ecosystems (both aquatic and terrestrial) function in order to preserve, create and restore them. The curriculum will prepare students to engage in restoration projects ranging from the remediation of polluted ecosystems to the creation of new ecosystems.

The **Environmental Molecular Science** option is for students who have an interest in both biological and physical sciences and a desire to provide solutions to the world's environmental

challenges. The curriculum provides students with a multidisciplinary education in biochemistry, environmental science, geochemistry, microbiology and molecular biology. Students will gain a comprehensive understanding of Earth's biogeochemical processes and reactions on the scale of a single atom, molecule and cell.

The **Environmental Science Education** specialization is an ideal major for students planning to pursue the master of education degree.

The **Soil Resources and Environmental Sustainability** specialization offers a highly interdisciplinary curriculum. Soil scientists apply concepts from biology, microbial ecology, chemistry, earth sciences, ecology, hydrology, mineralogy, mathematics and physics to understand, sustain and improve the environment.

The **Water Science** specialization addresses the fate of ecosystems like wetlands and riparian corridors. Students will take courses in ecology, geology, physics, hydrology, water resources, wetland ecology, civil engineering, aquatic plants, soil chemistry, climatology, limnology and environmental microbiology.

Co-Curricular Opportunities

Students in the School of Environment and Natural Resources enjoy a variety of opportunities to enrich their student experience beyond the classroom. Student organizations, such as TerrAqua and Students for a Sustainable Campus, give students hands-on experiences in the field and help them develop network connections with professionals.

Gaining real world experience through internships is critical to student success. Students gain valuable work experience at a variety of federal, state and private agencies and organizations.

The School of Environment and Natural Resources Career Services Office assists students with one-on-one counseling to identify job opportunities, assist in preparing cover letters and resumes, and preparing for interviews. They offer workshops, conduct career fairs and help students along the way to make sure they are building successful resumes.

All students are encouraged to gain an international experience with study abroad. Several study tours offer programs focusing on aspects of the environment, natural resources or sustainability in places such as China, Dominican Republic, New Zealand, Australia, Fiji and Iceland.

Honors & Scholars Programs

Ohio State offers the Honors and Scholars programs to create an environment of intellectual support and stimulation within a

For more information, check these websites:

School of Environment and Natural Resources:
senr.osu.edu

College of Food, Agricultural and Environmental Sciences:
cfaes.osu.edu/students

Ohio State: osu.edu

Admissions: undergrad.osu.edu

First Year Experience: fye.osu.edu

Curriculum Sample

This is a sample list of classes a student will take to pursue a BS in Environment and Natural Resources. Since university students need more than specific education in a narrow field, they also will take classes to complete General Education (GE) requirements. Because GE courses come from a variety of academic areas of study, this course work helps students develop fundamental skills essential to collegiate success and allows them to tailor these courses toward their interests. Note: This sample represents one of several possible paths to a degree with a major in environmental science. More information is available at senr.osu.edu.

Freshman Year	
Survey course	1
Calculus	5
Chemistry	10
Introduction to Environmental Science	3
Natural Resources Data Analysis	3
Society and Natural Resources	3
Introduction to Forestry, Fisheries and Wildlife	3
GE courses	6
Total hours	34

Sophomore Year	
Organic Chemistry	4
Soil Science	4
The Dynamic Earth	4
Biology	8
Physics	5
Psychology of Environmental Problems	3
Microeconomics	3
GE courses	3
Total hours	34

Junior Year	
Water Quality Management	2
Introduction to Ecology	4
Natural Resources Policy	3
Introduction to Spatial Info for Natural Resources	2
Environmental Science specialization courses	9
GE courses	9
Total Hours	29

Senior Year	
Natural Resources Management	3
Environmental Science specialization courses	18
GE courses	3
Total hours	24

close-knit community of high-ability undergraduate students. Through these programs, students have access to smaller classes, undergraduate research opportunities, close working relationships with faculty, priority scheduling and unique housing options.

Honors and Scholars programs represent great opportunities to be part of a smaller community within a large university. Learn more about the Honors and Scholars program at honors-scholars.osu.edu.

Environment and Natural Resources Scholars share an interest and passion for the environment and being outdoors. Students participate in various environmentally based service learning projects, educational trips, and seminars and workshops with leading environmental researchers. These students also have a unique study abroad experience—most recently they have traveled to Iceland to learn about the culture, environmental challenges and Ohio State research connections to this country. The Scholars live together in Morrill Tower.

The Environment and Natural Resources Honors program challenges high-ability students by providing a program in greater breadth and depth and provides special recognition and scholarships for outstanding scholastic achievement. Students are able to design their own study plan that guides their course selection and honors research. Freshmen with University Honors standing may be accepted directly as a candidate for the Environment and Natural Resources Honors program.

Career Prospects in Environmental Science

Environmental science has been and will continue to be a growing career field. The intensive background and additional certification components of this degree make students highly sought after in both the public and private sector. Average starting salaries for environmental science students is between \$51,000 and \$67,000 per year. Many of our students pursue advanced degrees. Students with a master's degree or PhD can expect salaries ranging from \$60,000 to \$150,000 as environmental scientists and consultants. The intensive science background also makes this a good starting point for professional programs such as veterinary medicine, medicine, law and others.

Revised 2013. Information subject to change. For the most up-to-date information on the environmental science program, visit senr.osu.edu.

Contact information:

Esther Dwyer | School of Environment and Natural Resources
210 Kottman Hall | 2021 Coffey Road | Columbus, OH 43210
614-688-1904 | dwyer.79@osu.edu

