

# Environmental Sciences

Experience.  
Explore.  
Discover.  
Achieve.

Departments  
and Programs  
in the College  
of Science

Biochemistry &  
Biophysics

Biology

Botany & Plant  
Pathology

Chemistry

Environmental  
Sciences

Geosciences

Mathematics

Microbiology

Molecular &  
Cellular Biology

Physics

Pre-professional  
Programs in the  
Health Sciences

Professional  
Science Masters

Science &  
Mathematics  
Education

Statistics

Zoology

## Undergraduate Program

**"I had many opportunities at OSU that have served me well in my career so far. I designed my own ES option, entitled "Plant and Soil Interactions", which has been incredibly useful. I gained invaluable research**

**experience... and found that my international degree and my study-abroad experience made me more interested in and aware of global events, politics, and science."**

**—Arianna Sutton, 2000 ES graduate**

Preparing students to be both basic and applied scientists. **The purpose of the Environmental Sciences Undergraduate Program is to provide a curriculum that will develop scientists who are able to analyze and understand environmental systems, predict environmental change, and participate in the management of the environment.**

### An OSU environmental sciences graduate is:

A Ph.D. student at Duke University, focusing on wetland restoration and improving our understanding of how to restore ecosystem functions

An environmental policy lawyer

A ground-water quality specialist for Jackson County, based in Ashland, Oregon

A professor at Evergreen State University

A science education teacher at a middle school

A scientist in a non-profit organization

An environmental toxicologist

A public health specialist for a school district

### Learning by Experiencing

Each student in the program participates in an internship which provides experience working in a business or government agency, or experience working in a research lab. Students develop depth in a specific academic area through the completion of focused course work; and develop breadth through a set of core courses that include concepts in physical sciences, life sciences, and social sciences.

There are many opportunities for environmental sciences (ES) students to take advantage of a large variety of programs at OSU:

- The University Honors College provides challenging curricula, personal attention, and enhanced learning experiences both in general education and in the area of the student's primary academic interest. from faculty selected for their undergraduate teaching abilities.

- ES students can opt to spend a 10-week, on-site, spring term studying marine biology in the field and laboratory at the OSU Hatfield Marine Science Center, a world-renowned research laboratory located in Newport, Oregon.

- The University of Auckland's exchange program in New Zealand offers courses at all levels to develop students' multidisciplinary skills in environmental ecology, marine sciences and environmental management. Students can elect experiential courses at the renowned Leigh Marine Laboratory, which offers students onsite accommodations and unique opportunities in marine research.

- The Organization for Tropical Studies (OTS), a consortium of 64 scientific research centers and universities, promotes environmental awareness/ understanding, research, and the management of natural resources

in the tropics. OTS operates three biological stations in Costa Ric, including Las Cruces Biological Station and Botanical Garden. They offer both advanced semester-long and summer courses in tropical ecology; most are taught in English.

- Universidad San Francisco de Quito, a private liberal arts university in Quito, Ecuador, offers relevant courses to ES majors. Their Galapagos Academic Institute for the Arts and Sciences (GAIAS), is located in Puerto Baquerizo Moreno, the capital city of the Galapagos Archipelago. GAIAS offers a full semester program in English to international students.

- OSU students may also study on exchange at the University of Wales, Bangor, UK, for one year.

OSU's doctoral research programs in ecology and evolutionary biology are ranked eleventh nationally by the Ecological Society of America. These faculty and graduate students mentor the environmental sciences undergraduates.

# Environmental Sciences

**"Environmental Sciences was the perfect catalyst for my career as a scientist. The interdisciplinary environmental science degree at OSU has given me a background**

**that helps me collaborate with many different kinds of scientists, which is essential in my job. Even more importantly, having this holistic background will help me understand**

**the big picture when I'm ready to begin graduate school in a more specialized discipline."**

—Barbara Robinson, 2004 ES graduate

## Specializations in the undergraduate environmental sciences:

- Applied ethics certificate
- Aquatic biology option
- Botany minor
- Business minor
- Environmental chemistry option
- Environmental engineering option
- Environmental geosciences minor
- Environmental health & safety minor
- Environmental policy option
- Fisheries & wildlife minor
- Forest management minor
- GIS certificate
- Horticulture minor
- Land-atmosphere option
- Natural resource & environmental law & policy minor
- Oceanography minor
- Pre-education option
- Resource economics minor
- Soil science minor
- Terrestrial ecosystems option
- Zoology minor

## Education

Students in the Environmental Sciences (ES) Program begin by building a strong foundation in the basic sciences and the humanities, both through the baccalaureate core (BC) and the major requirements. In the

junior year, the curriculum focuses on natural environmental systems as well as the interface between humans and the environment. Then, students choose an area of specialization. The program also requires that students complete an "observational experience", usually an internship or research experience that actively engages them in the field of environmental science.

Seeing the need for an understanding of global issues and for international, multi-cultural sensitivity in the educational system, OSU offers a unique undergraduate international degree. This B.A. is obtained only with another undergraduate degree; it is OSU's original dual-degree. It enables students to have a global perspective within the context of their academic areas.

The Life Sciences Club is an official OSU student organization. The Club provides an opportunity for students to apply information and skills learned in course work to actual field situations. It allows networking about conservation issues, job, and internship opportunities within science fields. Rafting trips, camping, hiking and whale watching provide a fun social outlet.

## Faculty

Each specialization in the program is designed so that students work in their chosen area of expertise with a faculty member who has an international reputation in his or her field.

Many students complete part of their observational experience by working closely with a faculty member on a research project or in a lab, gaining valuable work experience.

Additionally, our award winning faculty members participate a great deal outside the classroom through consulting work across several sectors, research, and government, thus maintaining close ties with the global community and giving our students a door into a great job.



## for more information, please contact:

Environmental Sciences  
Undergraduate Program  
College of Science  
Oregon State University  
2046 Cordley Hall  
Corvallis, Oregon 97331-2904  
phone: 541 737-2404  
fax: 541 737-3573  
email: [ensc@oregonstate.edu](mailto:ensc@oregonstate.edu)  
<http://envsci.science.oregonstate.edu/>

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Biochemistry & Biophysics

Biology

Botany & Plant Pathology

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Environmental Sciences

Geosciences

Mathematics

Microbiology

Molecular & Cellular Biology

Physics

Pre-professional Programs in the Health Sciences

Professional Science Masters

Science & Mathematics Education

Statistics

Zoology

**OSU**  
Oregon State  
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