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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

\*graduate program only

# Earth Science

...our planet and its interacting systems—how do they work? Earth science includes the solid earth, water, the atmosphere, and living organisms. These parts interact in surprising and societally relevant ways. Studying earth science enables you to understand and help shape the future of the earth's systems. Is reducing carbon dioxide emissions necessary for the continued vitality of our society? Discovering the answer requires knowledge of all parts of earth science.

## Career Opportunities

Earth scientists are needed as researchers to understand complex cycling of chemicals such as carbon, nitrogen and water.

Earth scientists with broad knowledge of the earth are needed in education to teach children about the world we live in and to motivate them in all of science by using the most exciting and accessible of all laboratories—the outdoors.

Scientists are needed as interpreters in national parks, museums, and other places where the public learns about the earth.

Furthermore, earth science may be applied to a range of other career choices requiring a general knowledge of science.

The earth science program in the Department of Geosciences offers the B.S. degree with a general program of study across the earth sciences. Majors take classes in the Department of Geosciences and in several allied units at OSU, including the Department of Crop and Soil Science and the College of Oceanography and Atmospheric Sciences. Faculty members in these units work on the entire spectrum of earth science and, in collaboration, make OSU one of the best places in the world to study in this field. Students who excel in their studies may arrange to work on a research project through individual study with a faculty member.

Four specializations are incorporated into the earth science degree as options, based on career opportunities. Students select one of the following options:

1. Earth system science: provides students with broad training for advanced work in the emerging discipline of earth system science.

Students with this degree may decide to go on to study at the graduate level in a variety of disciplines.

2. Earth science education trains students so that they may teach earth science in K-12 schools and other science or math courses in grades five through nine. Initial licensure will be achievable with this option and completion of the M.S. in science and mathematics education, which typically takes an additional year.

3. Public interpretation prepares students with the skills needed to interact and teach the public about earth science in settings such as local, state, and national parks, nature preserves and museums. Students completing this option may achieve certification through the National Association for Interpretation.

4. Applied earth science focuses on application of earth science techniques to a related field of study. Earth science techniques include geographic information systems (GIS), cartography, remote sensing, and environmental assessment.

Students receive training through a minor in a related field such as biology, environmental engineering, fisheries and wildlife, or military science where these techniques are applied. This option is recommended for students in ROTC.



# Earth Science

## What to know about Oregon State University

Head Advisor

College of Science  
128 Kidder Hall  
541-737-4811

OSU Admissions  
104 Kerr Administration  
541-737-4411  
800-291-4192

OSU Financial Aid  
Student Employment  
Loans & Scholarships  
College Work Study  
218 Kerr Administration  
541-737-2241

OSU Registrar  
102 Kerr Administration  
541-737-4331

OSU Housing  
102 Buxton Hall  
541-737-4771

OSU Website  
<http://oregonstate.edu>

## For more information, please contact:

Stephen Lancaster, Chief Advisor  
Department of Geosciences  
Earth Sciences Program  
College of Science  
Oregon State University  
104 Wilkinson Hall  
Corvallis, Oregon 97331-5506  
phone: 541-737-1201  
fax: 541-737-1200

email: [geo-info@geo.orst.edu](mailto:geo-info@geo.orst.edu)  
<http://terra.geo.orst.edu>

Oregon State University is an Affirmative Action  
Equal Opportunity Employer and complies with  
Section 504 of the Rehabilitation Act of 1973.

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## Course of Study

Students begin the freshman year with a year-long sequence in basic earth science in addition to chemistry and mathematics. The sophomore year includes additional courses in earth sciences and physics.

Students focus on their option during the last two years and complete upper division courses in earth science, a capstone experience. All students are encouraged to take as many discipline-specific 400-level electives as possible. Requirements for graduation include 48 credits needed for the baccalaureate core (BC), consisting of writing/speech (9 cr.), mathematics (3 cr.), fitness (3 cr.), physical and biological sciences (12 cr.), western culture/cultural diversity/literature & arts/social processes/difference, power, and discrimination (15 cr.), and contemporary global issues/science, technology and society (6 cr.).

## Sample Curriculum

An official graduation checklist may be obtained from an advisor.

Freshman and Sophomore Years		credits
Physical Geology	GEO 201	4
Earth System Science	GEO 202	4
Evolution of Planet Earth	GEO 203 or alternative	3-4
Math and Statistics	MTH 112, 251; ST 351; MTH 252 or ST 352	16
Chemistry	CH 121, 122 or CH 221, 222	10
Physics	PH 201, 202 or PH 211, 212	8-10
BC: Writing I & II	WR 121, 122	6
BC: Writing III		3
BC: Fitness		3
BC: Perspectives		9
Sophomore and Junior Years		credits
Biological Science with Lab	BI 211 recommended	4
Surface Processes	GEO 322	4
Geographic Information Systems	GEO 265	3
Map & Image Interpretation	GEO 301	4
Water Science & Policy	CSS/GEO 335	3
Oceanography	OC 331	3
Principles of Soil Science	CSS 305	4
BC: Perspectives		6
BC: Contemporary global issues		3
Junior and Senior Years		credits
Upper division focus area		12
Earth science option		31-35
Geosciences Field Methods	GEO 462	4
Professional Seminar	GEO 407	1
Contemporary Earth Sci. Issues	GEO 4xx - number to be assigned	3

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