ABOUT DEES

The Department of Earth and Environmental Sciences (DEES) hosts one of the top-rated earth and environmental science programs internationally. Faculty from all over the world bring their expertise and knowledge to our classrooms preparing students to take on the current challenges facing earth and humanity. The program provides an understanding of the natural functioning of our planet and considers the consequences of human interactions with it. It is designed to instill a comprehension of how the complex earth systems work, at a level that will encourage students to think creatively about how to address multidisciplinary environmental problems.

With climate change rapidly reshaping the earth, it has never been a more crucial time to train the next generation of scientists in the earth and environmental science fields. Students will graduate with a degree that readies them to think critically and tackle the problems of Earth's unpredictable future.

The breadth of material covered in the program provides an excellent background for students to continue on to careers in various fields or graduate school in the earth and environmental sciences. The skills developed in the program can open up many career paths such as law, business, environmental consulting, research, public policy, teaching, and journalism.

Field trip to the Newark Basin

Field trip to Death Valley, California

Field trip to Greenbush, Maine

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Department of
Earth & Environmental
Sciences

Columbia University

COURSES

Fall 2021

Dinosaurs & History of Life - UN1001/1401
Environmental Risks & Disasters - UN1201
Earth Resources & Sus Dev - UN1600/GU4600
Climate System - UN2100
Solid Earth System - UN2200
Science for Sustainable Development - UN2330
Geochemistry for a Habitable Planet - UN3101
Climate Physics - UN3109
Computational Earth Science - UN3400
Intro to Atmospheric Science - GU4008
Humans and the Carbon Cycle - GU4020
Global Assessment & Remote Sensing - GU4050
Paleobiology & Earth Systems History - GU4480
Plant Ecophysiology - GU4550
Wetlands & Climate Change - GU4835
Intro to Physical Oceanography - GU4925

Spring 2022

Global Warming for Global Leaders - UN1009
Death Valley Field Excursion - UN1010
Climate System - UN2100
Solid Earth System - UN2200
Life System - UN2300
Field Geology (Italy) - UN3010
Solid Earth Dynamics - UN3201
Chemical Geology - GU4009
Climate Thermo/Energy Transfer - GU4040
Geochron/Thermochron - GU4090
Geophysical Fluid Dynamics - GU4210
Glaciology - GU4220
Sea Level Change - GU4235
Earth's Deep Interior - GU4300
Intro to Igneous Petrolog - GU4701
Chemistry of Continental Waters - GU4885
Paleoceanography - GU4920
Intro to Atmospheric Chemistry - GU4924
Ocean Dispersion & Mixing - GU4929
Earth's Oceans & Atmosphere - GU4930

Field trip to Fire Island, New York

MAJORS & CONCENTRATIONS

The **Earth Science** major provides an in-depth study of the solid and fluid Earth, its history, and ancient and modern geological processes

The **Environmental Science** major focuses on the interaction between Earth's physical environment and the biosphere, anthropogenic processes like pollution and global climate change, and environmental remediation.

The **concentrations** in Earth and Environmental Science are designed to give students deeper knowledge of these fields than that provided by introductory courses.

FIELD TRIPS

The department hosts field trips to bring lessons from the classroom to the outdoors. We have a field-geology course for majors offered annually, typically in Italy or Barbados. We also offer trips to California's Death Valley and other destinations for first and second-year students. Our student-ran undergraduate club also plans various events such as a Central Park Geology trip and overnight camping trips.

RESEARCH

The Department of Earth and Environmental Sciences shares staff and facilities with Columbia University's world renowned research institution, the Lamont-Doherty Earth Observatory. Since its founding in 1949, Lamont has been a leader in the earth sciences.

The Department is also affiliated with the NASA Goddard Institute for Space Studies (GISS) and the American Museum of Natural History (AMNH).

Undergraduate students can participate in research alongside professors and graduate students at Lamont, NASA GISS, and AMNH.

Field trip to Iceland