

# 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 2020

Dinosaurs & History of Life - UN1001/1401  
Environmental Risks & Disasters - UN1201  
Earth Resources & Sustainable Development - UN1600/GU4600  
Climate System - UN2100  
Solid Earth System - UN2200  
Science for Sustainable Development - UN2330  
Geochemistry for a Habitable Planet - UN3101  
Intro to Atmospheric Science - GU4008  
Global Assessment & Remote Sensing - GU4050  
Intro to Terrestrial Paleoclimate - GU4330  
Isotope Geology I - GU4887  
Earth/Human Interactions - GU4917  
Biological Oceanography - GU4923  
Intro to Physical Oceanography - GU4925  
Intro to Seismology - GU4949

## Spring 2021

Death Valley Field Excursion - UN1010  
Climate System - UN2100  
Solid Earth System - UN2200  
Life System - UN2300  
Field Geology (Italy) - UN3010  
Hydrology - BC3025  
Solid Earth Dynamics - UN3201  
Chemical Geology - GU4009  
Climate Thermo/Energy Transfer - GU4040  
Geodynamics - GU4085  
Intro to Mineralogy - GU4113  
Geophysical Fluid Dynamics - GU4210  
Glaciology - GU4220  
Sedimentary Geology - GU4223  
Sea Level Change - GU4235  
Biogeochemistry - GU4524  
Intro to Atmospheric Chemistry - GU4924  
Chemical Oceanography - GU4926  
Earth's Oceans & Atmosphere - GU4930  
Cenozoic Paleooceanography - GU4937



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