EARTH AND SUSTAINABILITY, MINOR

Requirements for a minor may be completed at any campus location offering the specified courses for the minor. Students may not change from a campus that offers their major to a campus that does not offer their major for the purpose of completing a minor.

Program Description

By the time current undergraduates send their children to college, Earth's population will have increased to more than eight billion people. One or more metropolitan areas in our increasingly crowded world will have experienced a devastating earthquake or volcanic eruption, sea level rise will be inundating low-lying coastal cities such as Jakarta along with whole island nations, energy resources will be less available and more expensive, and our climate will be warmer and characterized by more frequent extreme weather events.
How we choose to plan for and attempt to mitigate these "grand challenges" will have consequences for individuals, nations, and our global socioeconomic and political systems.

Personal and collective actions are needed to ensure the sustainable use of our natural resources and environmental systems—land, air, and water—in an ethical and responsible manner. The United States needs to build robust educational pathways for its citizenry to develop the global perspective, cultural sensitivity, economic wisdom, and scientific acumen to inform their actions and address these grand challenges. The geosciences (marine, Earth, and atmospheric sciences) that explain the workings of the Earth system provide critical insight into all of these challenges and, consequently, must be firmly integrated into those educational pathways. These programs seek to promote that integration through engaging the geoscience community and their colleagues in allied disciplines in the development of high-quality educational materials, and mechanisms by which these materials can be effectively brought to large numbers of students.

The goal of this minor is to dramatically increase geoscience literacy of undergraduate students, including the large majority that do not major in the geosciences, and especially adult learners through the online program, such that they are better positioned to make sustainable decisions in their lives and as part of the broader society.

What is Earth and Sustainability?

The Earth and Sustainability minor program is designed to provide students with the knowledge needed to make well-informed, environmentally sustainable decisions. It increases geoscience literacy and addresses key sustainability issues, such as the impact of climate change on Earth and its inhabitants, access to clean drinking water, sustainable energy, and the hazards posed by our overpopulated coastal regions.

You Might Like This Program If...

- You are passionate about sustainability and the environment.
- You want a better understanding of the science behind and potential effects of climate change.
- You want to know more about the complexities, challenges, and opportunities involved in planning for the Earth's future.
- You would like to explore both the scientific and the social aspects of big problems like population growth, resource management, and climate change.

Program Requirements

Requirement	Credits
Requirements for the Minor	18

Requirements for the Minor

A grade of C or better is required for all courses in the minor, as specified by Senate Policy 59-10 (https://senate.psu.edu/policies-and-rules-for-undergraduate-students/59-00-minors-and-certificates/#59-10).
In addition, at least six credits of the minor must be unique from the prescribed courses required by a student's major(s).

Code	Title	Credits
Prescribed Courses		
Prescribed Courses: Require a grade of C or better		
EARTH 103N	Earth in the Future: Predicting Climate Change and Its Impacts Over the Next Century	3
EARTH 402	Modeling the Earth System	3
Additional Courses		
Additional Courses: Require a grade of C or better		
Select three of the following:		9
EARTH 104N	Climate, Energy and Our Future	
EARTH 111		
EARTH 107N	Coastal Processes, Hazards and Society	
GEOG 3N	Food and the Future Environment	
Supporting Courses and Related Areas		
Supporting Courses and Related Areas: Require a grade of C or better		
Select 3 credits from the approved list of EMS courses. Approved courses are:		3
EGEE 401	Energy in a Changing World	
EME 444	Global Energy Enterprise	
EME 460	Geo-resource Evaluation and Investment Analysis	
GEOG 412		
GEOG 430	Human Use of Environment	
GEOG 431	Geography of Water Resources	
GEOG 432	Energy Policy	
GEOG 438W	Human Dimensions of Global Warming	
GEOG 469	Energy Industry Applications of GIS	
GEOSC 402Y	Natural Disasters	
GEOSC 451	Natural Resources: Origins, Economics and Environmental Impact	
GEOSC 452	Hydrogeology	
METEO 469	From Meteorology to Mitigation: Understanding Global Warming	

Academic Advising

The objectives of the university's academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee's unit of enrollment will provide each advisee with a primary academic adviser, the information needed to plan the chosen program of study, and referrals to other specialized resources.

READ SENATE POLICY 32-00: ADVISING POLICY (https://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy/)

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