

EARTH SUSTAINABILITY, CERTIFICATE

Requirements for an undergraduate certificate may be completed at any campus location offering the specified courses for the certificate.

Program Description

By the time current undergraduates send their children to college, Earth's population will have increased to more than eight billion people. Our climate will be warmer and characterized by more frequent extreme weather events including droughts. One or more major metropolitan areas in our increasingly crowded world will have experienced a devastating hurricane or typhoon, sea level rise will be inundating low-lying coastal cities along with whole island nations, energy resources will be less available and more expensive, clean drinking water will be more scarce, and it will be increasingly difficult to feed the global population. 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.

The goal of the 12-credit Certificate Program in Earth Sustainability is to dramatically increase geoscience literacy of all undergraduate students, including the large majority that do not major on the geosciences, future K-12 teachers, and also those who are historically underrepresented in the geosciences, such that they are better positioned to make sustainable decisions in their lives and as part of the broader society.

What is Earth Sustainability?

The Earth Sustainability certificate 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

To earn an undergraduate certificate in Earth Sustainability, a minimum of 12 credits is required.

Code	Title	Credits
Required Courses		
EARTH 103		3
Select 9 credits from the following:		9
EARTH 104N	Climate, Energy and Our Future	
EARTH 107N	Coastal Processes, Hazards and Society	
EARTH 109	The Fundamentals of Shale Energy Development	

EARTH 111

GEOG 3N Food and the Future Environment

Certificate Learning Objectives

- **Communicate with policy makers and fellow citizens:** Communicate the major sustainability issues facing the Earth and their solutions to stakeholders including policy makers and fellow citizens
- **Connection with human activities:** Assess the connection between human activities and changing climate and environment
- **Elements of sustainability and their relationships:** Interpret the relationships between the key elements of sustainability including energy, water and food supply
- **Manipulate and interpret data:** Manipulate and interpret data related to the Earth's climate and resources and their future
- **Project impact of climate change:** Project using a variety of tools how the climate, energy use, water, coastal hazards and food supply will change in the future

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/students/policies-and-rules-for-undergraduate-students/32-00-advising-policy/>)

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