

# ENVIRONMENTAL SYSTEMS ENGINEERING, 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

The minor in Environmental Systems Engineering is for students interested in environmental issues associated with the extraction, processing, and utilization of mineral and energy resources and their solutions. It provides an opportunity for students to understand and appreciate the interrelationship between energy and the environment, be exposed to the basic courses in environmental systems engineering, and to appreciate and evaluate the impact of environmental pollution control on viability of the profitability and feasibility of operations associated with the safe extraction, processing, and utilization of mineral and energy resources. A minimum of 18 credits is required for the minor. A student enrolled in this minor must receive a grade C or better in all courses in the minor. Advising is available through the professor in charge.

## What is Environmental Systems Engineering?

Protecting the health of workers and the environment, often during challenging projects, is the job of an environmental systems engineer. They understand, demonstrate, and apply systems engineering principles to environmental issues related to industrial activities and to the extraction of energy and mineral resources. These engineers work closely with project leaders, utilizing process systems engineering and environmental systems approaches, to evaluate and address the environmental impact of projects. Often these engineers work in the government sector and offer expertise in big-picture projects facing cities, regions, nations, and the globe.

## You Might Like This Program If...

- You want to minimize the environmental impact of industrial activities and protect the health of workers.
- You have strong math, science, and engineering skills and want to apply them to improving worker and environmental safety.

## 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
<b>Prescribed Courses</b>		
<i>Prescribed Courses: Require a grade of C or better</i>		
EME 460	Geo-resource Evaluation and Investment Analysis	3

ENVSE 406	Sampling and Monitoring of the Geo-Environment	3
ENVSE 427	Pollution Control in the Process Industries	3
ENVSE 450	Environmental Health and Safety	3
MNPR 301	Elements of Mineral Processing	3

### Additional Courses

*Additional Courses: Require a grade of C or better*

Select one of the following:		3
EGEE 470	Air Pollutants from Combustion Sources	
ENVSE 400	Safety Engineering	
MNPR 426	Aqueous Processing	

## 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/>)

## University Park

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