

Environmental Systems Engineering, B.S.

John and Willie Leone Family Department of Energy and Mineral 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.



PennState
College of Earth
and Mineral Sciences



Overview

The Environmental Systems Engineering degree program follows a unique interdisciplinary curriculum that is designed to address critical environmental, safety, and health problems. All students gain a deep understanding of both the causes of environmental degradation on society and the effects, as well as how to engineer solutions.

You might be a good fit 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 that to improving worker and environmental safety.

Internships and scholarships

The College of Earth and Mineral Sciences awards more than \$2.5 million annually, including more than \$310,000 exclusively for students interested in the department Environmental Systems Engineering is housed in.



Clubs and activities

- ◆ Society of Environmental Systems Engineers
- ◆ American Water Works Association
- ◆ Engineers Without Borders
- ◆ Society for Mining, Metallurgy & Exploration

Why choose Penn State?

The program is complementary to the more general environmental



I've been able to chart a sustainable future of endless possibilities in Environmental Systems Engineering at Penn State, where the supportive faculty and student connections fuel your passion.

~ Tsunami Sharmba

science programs that emphasize the identification and evaluation of environmental problems, and to the classical environmental engineering programs offered by civil engineers whose traditional emphasis is on public-sector concerns of water supply, municipal wastewater treatment, and trash management and disposal.

Career opportunities

- ◆ Environmental consulting firms (Arcadis, ARRO, GBA, Hart & Hickman, Hatch, JMT, Key Environmental)
- ◆ Governmental agencies (PA DEP, NJ DEP, US EPA, Municipalities)
- ◆ Industry (Chevron, ExxonMobil, Liberty Mutual, Newmont, Northrop Grumman, Novartis Pharmaceuticals, Schlumberger)
- ◆ Advanced degrees (Stanford, Columbia University, Cornell, University of Southern California, University of Iowa, Penn State, Drexel)

\$55K Average starting salary for grads

68% Job placement

15th *U.S. News and World Report rank