

ENVIRONMENTAL SYSTEMS ENGINEERING, B.S.

Begin Campus: Any Penn State Campus

End Campus: University Park

Program Educational Objectives

Our graduates will attain one or more of the following:

- Careers as practicing environmental systems engineers engaged in the identification and mitigation of a broad range of environmental, health, and safety risks associated with the resource recovery, process, and general industries, through the effective design and implementation of economic engineering systems.
- Advancement to management and leadership positions devoted to addressing critical environmental-related challenges of the basic industries, especially those involved with the extraction, recovery, conversion, and utilization of energy and mineral resources.
- Advanced degrees, training, and professional licensure or certification in environmental systems engineering or related technical disciplines

Student Outcomes

Student outcomes describe what students are expected to know and be able to do by the time of graduation. The Environmental Systems Engineering program is designed to enable students to:

1. Identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
2. Apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors
3. Communicate effectively with a range of audiences
4. Recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts
5. Function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives
6. Develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions
7. Acquire and apply new knowledge as needed, using appropriate learning strategies.