

INDUSTRIAL ENGINEERING, B.S. (ENGINEERING)

Begin Campus: Any Penn State Campus

End Campus: University Park

Program Description

The undergraduate program in industrial engineering, being the first established in the world, has a long tradition of providing a strong, technical, hands-on education in design, control, and operation of manufacturing processes and systems. The curriculum provides a broad-based education in manufacturing, operations research and ergonomics through a base of mathematics, physical and engineering sciences, and laboratory and industrial experiences. It builds a strong foundation for the development of a professionally competent and versatile industrial engineer, able to function in a traditional manufacturing environment as well as in a much broader economy, including careers in financial services, communication, information technology, transportation, health care, consulting, or academia.

After completing courses required for the core and fundamental competencies in the major, students can choose two IE technical elective courses from a department list. In addition, students must also complete the three-credit capstone design course.

What is Industrial Engineering?

Industrial Engineering is rooted in the sciences of engineering, the study of systems, and the management of people. Industrial engineers are big-picture problem solvers who optimize complex engineering systems and processes. They bring together people, machinery, materials, information, energy, and financial resources to improve efficiency, performance, quality, and safety while reducing cost and waste. According to the Institute of Industrial & Systems Engineers, Industrial Engineers "work to eliminate waste of time, money, materials, energy, and other commodities." Because it is a broad and versatile discipline, study of industrial engineering prepares you for careers in every sector of the economy.

You Might Like This Program If...

Largely based in math and science, while incorporating business and psychology, the industrial engineering program is designed to prepare students to become leaders in engineering. We provide students with a comprehensive education in human factors/ergonomics; manufacturing; operations research; and supply chain/service engineering through coursework and hands-on experience. Our students become innovators who discover new solutions that address evolving challenges in a wide variety of sectors including academia, banking, communications, consulting, healthcare, information technology, transportation, etc.