

# COMPUTER ENGINEERING, B.S. (BEHREND)

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**Begin Campus:** Any Penn State Campus

**End Campus:** Erie

## Program Description

This major provides students with a strong foundation in computer engineering through a combination of classroom study, design projects, and laboratory experience. Analysis and design of computer hardware and software systems are stressed. Built upon a core of science and mathematics courses, this major has the objective of educating graduates to be problem solvers. Students acquire the ability to work as members of a team toward successful attainment of a common goal, preparing them for industry or further study in graduate school. In addition, written and oral communication skills are developed from an early stage, culminating in a senior design project that stresses communication as well as engineering content.

In addition to completing a broad-based science core in mathematics, chemistry and physics, students pursue their interest in computer engineering by studying principles in digital hardware design, computer architecture, computer software, microelectronics, and computer data communications. The student will be required to analyze and solve a significant computer engineering design problem during the senior year.

## What is Computer Engineering?

Computer engineering is the study of the design, analysis, and implementation of computer systems including processors, memory, embedded devices, and data communication systems for a wide range of application domains. It includes the study of digital systems, computer architecture, and computer networks. It encompasses many design activities spanning from designing individual logic components to designing complete computer systems composed of hardware, software, and hardware-software co-design. Computer engineering drives the development of new computing systems that enable the latest technologies impacting our everyday lives.

## You Might Like This Program If...

- You've ever opened a computer housing to explore what's inside.
- You enjoy working with both hardware and software.
- You're interested in both engineering and computing—and in the overlap of the two disciplines.
- You'd like to take coursework in computers, engineering, math, and physics.