

# ELECTRICAL ENGINEERING, B.S. (CAPITAL)

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**Begin Campus:** Any Penn State Campus

**End Campus:** Harrisburg

## Program Description

The Bachelor of Science degree in Electrical Engineering provides a solid background in electrical engineering sciences. It also provides an opportunity for students to pursue interests in electrical and electronic circuits, including digital circuits and VLSI and its fabrication, microprocessors and their applications, electromagnetics, communications, control systems, and digital image processing and computer vision. Through participation in a senior capstone design, the curriculum emphasizes written as well as verbal communication and teamwork approach among the students to attain a common goal.

This program helps its graduates develop capabilities to analyze and design a variety of electrical and electronic systems found in many industrial and government settings as well as provide a foundation for further graduate studies. A strong background in the fundamentals is built through a broad base core in basic sciences (physics and chemistry) and mathematics as well as engineering sciences.

## What is Electrical Engineering?

Electrical engineering is a broad discipline of study that includes circuit design, analog and digital electronics, electromagnetics, electro-optics, control systems, power systems, communications, and signal/image processing. Electrical engineers study and apply physics and mathematics to design electrical and electronic systems and their components for a wide range of applications such as mobile phones, wireless communications, consumer electronics, computers, computer networks, power generation, machine learning, robotics, nanoelectronics, nanophotonics, bioelectronics, autonomous transportation, wearable electronics, and metamaterials.

## You Might Like This Program If...

- You enjoy problem-solving and math.
- You prefer to use analysis and the scientific method to understand things.
- You enjoy working on multidisciplinary teams on complex problems.
- You want to pursue a career in electrical engineering or its sub-branches.