Electrical Engineering, BSE

Electrical engineers develop technologies and systems for a wide variety of applications ranging from telecommunications to medical imaging. They play a central role in the design and implementation of any technology that is powered by electricity as well as the generation and distribution of electric power. Topics covered in the electrical engineering curriculum include the design of electronic circuits, communication systems, control systems, and semiconductor devices. Students may opt to specialize in any of these areas as well as others that include electrical power generation and distribution, medical image processing, computer systems, or design of micro- and nano-scale optical and electronic devices.

The major provides technical depth and breadth as well as flexibility and the opportunity for students to customize their programs according to their own goals. Students choose one of several focus areas according to the type of job or research they plan to pursue. More than 20 focus areas are available; see Focus Areas on the Department of Electrical and Computer Engineering website. Students also have the opportunity to work with their academic advisor to build a focus area plan that adheres to their goals and objectives. Focus areas allow students to personalize their curriculum and prepare them for the jobs or research they intend to pursue.

In their senior year, students complete a two-semester capstone design sequence culminating in a significant, original project.

Programs designed to lead to professional licensure are subject to federal regulations regarding informational disclosures. Please see Professional Licensure Disclosures by Program for further information.

Educational Objectives

Graduates of the electrical engineering program will:

- exhibit leadership and vision in contributing to the technical and policy decisions of industry, government, and research enterprises;
- demonstrate problem-solving abilities that permit them to contribute to a variety of technical, business, and academic careers;
- thrive in diverse, global, and multidisciplinary environments;
- possess the ability to communicate effectively and participate collaboratively in interactions with engineers and other professionals; and
- understand the importance of participating in lifelong learning activities that enhance their professional and personal development.