Electrical engineering, the largest of the engineering fields, is the application of mathematics, sciences and electrical and electronic technologies to the needs of society. This broad and diverse discipline touches almost every aspect of people’s lives and occupations, from communication systems such as cellular phones, radio, television and the Internet to computer systems, including personal computers and the hidden processors that control automobiles and household appliances.

Electrical and computer engineering at The University of Alabama offer programs in traditional electrical engineering and in computer engineering. Electrical engineering students get deeply involved in technical areas, including communication systems, computers, control systems, electromagnetics, electronics and microelectronics, power systems and signal processing. Students in the computer engineering option specialize in the software and hardware components of modern computing systems. The programs provide a sound foundation for entry into the engineering profession, and opportunities for graduates are extensive, often depending only on the interests of the individual. Graduates work in most industries, including the computer, telecommunications, power, aerospace, manufacturing, defense and electronics industries. They design high-tech devices ranging from tiny microelectronic chips to powerful computers that utilize those chips, to efficient telecommunication systems that interconnect those computers. They design and operate a wide array of complex technological systems, such as power generation and distribution systems and modern computer-controlled manufacturing plants. They are also involved in sales, marketing, testing, quality control and research. With additional training, they may even contribute in other professions, including education, medicine and law.

- Major
  - Electrical Engineering (BSEE)
- Minor
  - Electrical Engineering

**Department Head**
- Haskew, Tim

**Alabama Power Endowed Professor**
- Burkett, Susan

**E.A. Larry Drummond Endowed Chair of Computer Engineering**
- Hong, Yang-Ki

**Professors**
- Balasubramanian, Bharat
- Haskew, Tim
- Jackson, Jeff

**Associate Professors**
- Abu Qahouq, Jaber
- Hu, Fei
- Kim, Seongsin
- Kotru, Sushma
- Kung, Patrick
- Li, Dawen
- Li, Shuhui
- Ricks, Kenneth
- Sazonov, Edward
- Scharstein, Robert

**Assistant Professors**
- Cakareski, Jakov
- Freeborn, Todd
- Lemmon, Andrew
- Song, Aijun

**ECE**

- **121**
  - Hours
  - 1
  - Introduction to Electrical and Computer Engineering
  - Introduction to electrical and computer engineering disciplines, specializations, the engineering design process, mathematics required for these disciplines, computer-based modeling and simulation tools, and professional responsibilities.
  - Prerequisite(s): MATH 110

- **225**
  - Hours
  - 4
  - Electric Circuits
  - Physical concepts and mathematical techniques of circuit analysis; DC, transient, and sinusoidal steady-state analysis of circuits; Includes laboratory experiments.
  - Prerequisite(s): PH 106 and PH 126, MATH 227 and MATH 238

View All Courses

**Faculty**

**Department Head**
- Haskew, Tim

**Alabama Power Endowed Professor**
- Burkett, Susan

**E.A. Larry Drummond Endowed Chair of Computer Engineering**
- Hong, Yang-Ki

**Professors**
- Balasubramanian, Bharat
- Haskew, Tim
- Jackson, Jeff

**Associate Professors**
- Abu Qahouq, Jaber
- Hu, Fei
- Kim, Seongsin
- Kotru, Sushma
- Kung, Patrick
- Li, Dawen
- Li, Shuhui
- Ricks, Kenneth
- Sazonov, Edward
- Scharstein, Robert

**Assistant Professors**
- Cakareski, Jakov
- Freeborn, Todd
- Lemmon, Andrew
- Song, Aijun