

## Fields of Study

**Electronic Materials Engineering:** Involves developing new electronic materials using nano-structures and biotechnology to be used as new sensors and devices.

**Communication Engineering:** Involves planning, designing, and predicting all types of electronic systems used for fast communication, from inter-city to inter-country applications using present day knowledge. It also encompasses design of communication using cognitive radios and continuity brokers. Communication engineering is also needed to develop modern airport runways and planes as well as in war applications.

**Power Engineering:** Involves designing, constructing, and managing all aspects of the power systems including EHT substations, construction of power transmission systems, and development of miniaturized batteries.

**Controls Engineering:** Involves designing, constructing, and managing control systems and facilities that provide control of various automatic devices used in modern communities. Such devices include automatic wipers, self-parking cars, food control systems, and water and flood control pumping systems.

## Graduate Program

The Master of Engineering Program provides students with opportunities to engage in advanced education and research in telecommunications and computer network engineering and electronic materials and processing engineering.

*For further information, please contact:*

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## Electrical Engineering



# Southern University and A&M College • College of Engineering and Computer Science

## **Electrical Engineering**

### **Why Electrical Engineering?**

From lightning discharges to satellites in space we use the power of electricity in just about every facet of life giving us a bird's eye view of electrical engineering in action.

Major contributors to the development and maintenance of a variety of technologies, electrical maintenance of a variety of technologies, electrical engineering apply the laws of mathematics and science to solve many of the world's problems. The growing population and the nation's need to modernize infrastructure security, support the need to more electrical engineers to build automatic transportation systems, communication systems, power systems, and medical systems. Electrical engineers are also responsible for the technology used to develop:

- Automatic cards
- Computerized and safer highways
- Energy conserving applications
- New medical devices and treatments such as pacemakers, and defibrillators
- Electric buses, trains, and underground transportation systems
- Automatic tracking of cars and traffic control systems
- High-power broadband communication systems using skyscrapers and satellites
- Video games and a variety of remote-controlled electronic toys
- Electrically controlled parking garages
- Electrical diagnosis and imaging techniques



### **Why Southern University?**

The Southern University College of Engineering is one of the most prestigious engineering programs in the nation and one of the top producers of minority engineering graduates. The College is housed in a multi-million dollar facility equipped with a high tech auditorium, multi-media ready classrooms, and state-of-the-art environmental, water resources, geotechnical, structures, and transportation laboratories and research facilities.

### **Program Objectives**

Graduates of Southern University's Department of Electronics Engineering Technology:

- Are trained thoroughly in methods of analysis, including the mathematical and computational skills appropriate for engineers to use when solving problems;
  - Have developed the skills pertinent to the design process, including students' ability to formulate problems, to think creatively, to communicate effectively, synthesize information and to work collaboratively;
  - Use current experimental and data analysis techniques for engineering application
  - Are prepared for successful careers and life-long learning; and
- Have an understanding of their professional and ethical responsibilities



### **Scholarship Opportunities**

The electrical engineering department offers a variety of engineering scholarships allowing students to focus on academics without the worry of financial obligations.

Two types of scholarships are available to electrical engineering majors: (1) high school graduates who have identified as a field of study and who have potential to excel in the engineering curriculum, and (2) students currently enrolled in the engineering programs who have maintained at least a 3.0 GPA. least a 3.0 GPA.

### **Special Programs**

The department also houses four special programs:

- The Samuel P. Massie Chair and DOE Sensors Program
- The Southern University Center for Information Technology and Innovation
- Texas Instruments Fellowship Program

These programs have added to the infrastructure of the college establishing high-tech computer laboratories, research opportunities and stipends for eligible students.

