Electrical Engineering, BSEE

Program Description

Nearly every industry utilizes electrical engineers. Graduates have the qualifications to enter careers in areas such as, but not limited to, telecommunications, computer engineering, manufacturing, aerospace industry, power generation and distribution, alternative energy, robotics, and automation. Typical job titles for graduates may include electrical engineer, electronics engineer, telecommunications engineer, project engineer, planner, project supervisor, consulting engineer, and design engineer.

Electrical Engineering requires rigorous training in basic engineering principles along with the development of skills in the areas of planning and management of design projects and the associated systems and resources. Graduates in the area of Electrical Engineering will be required to master technical elements and to demonstrate particular competence in the areas of communication, fiscal management, and project control. The broad-based background is tailored to develop professionals who will be able to move between the technical and managerial aspects of electrical engineering projects and to serve in key leadership positions within the engineering profession.

Program Educational Objectives: Program educational objectives are broad statements that describe career and professional accomplishments that the program prepares graduates to achieve during the first few years following graduation. Graduates of electrical engineering will:

a. Demonstrate career advancement with increasing responsibility in the electrical engineering industry as owners, managers, lead engineers, or other key positions of leadership.
b. Meet the educational requirements to pursue registration as a professional engineer in the State of Georgia and all other states in the nation.
c. To produce graduates who possess effective research and development skills and who are successfully enrolled in graduate education within Electrical Engineering and related fields.

 This program is a part of the Southern Polytechnic College of Engineering and Engineering Technology.

Accreditation

The Bachelor of Science in Electrical Engineering is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

Admission, Enrollment, and Graduation Policies

Admissions Requirements

This program does not have specific admission requirements and only admission to Kennesaw State University is required. For more information, please visit the Admissions section of the Catalog.

Enrollment Requirements

Upper division engineering courses require Engineering Standing.

Graduation Requirements

Each student is expected to meet the requirements outlined in Academic Policies 5.0 PROGRAM REQUIREMENTS & GRADUATION.

Program Course Requirements

Core IMPACTS Curriculum (42 Credit Hours)
General Education Core IMPACTS Curriculum

General Education Core Curriculum Requirements Specific to This Major

Engineering Majors: Must take MATH 1190 in Mathematics & Quantitative Skills, MATH 2202 in Applied Math, and PHYS 2211/2211L and PHYS 2212/2212L in Natural Sciences.

Note: Students cannot take both PHYS 1111/L and PHYS 2211/L nor PHYS 1112/L and PHYS 2212/L.

Core Field of Study (18 Credit Hours)

Students must earn a grade of "C" or better in these courses.

- MATH 2203: Calculus III
- CHEM 1211: Principles of Chemistry I
- CHEM 1211L: Principles of Chemistry Laboratory I
- EE 2301: Circuit Analysis I
- CPE 2200: Hardware Programming
  One (1) credit hour carried over from Mathematics & Quantitative Skills.
  Two (2) credit hours carried over from Technology, Mathematics, and Sciences.

Major Requirements (55 Credit Hours)
Students must earn a grade of "C" or better in these courses.

Lower-Division Required Courses (22 Credit Hours)

- ENGR 1000: Introduction to Engineering
- EE 1001L: Introduction to Electrical Engineering Lab
- CSE 1321: Programming and Problem Solving I
- CSE 1321L: Programming and Problem Solving I Laboratory
- EE 2302: Circuit Analysis II
- EE 2401: Semiconductor Devices
- EE 2501: Digital Logic Design
- MATH 2306: Ordinary Differential Equations
- STAT 2332: Probability and Data Analysis

Upper-Division Required Courses (33 Credit Hours)

- ENGR 4402: Engineering Ethics
- EE 3401: Engineering Electronics
- EE 3501: Embedded Systems
- EE 3601: Electric Machines
- EE 3605: Electromagnetics
- EE 3701: Signals and Systems
- EE 3702: Communication Systems
- EE 4201: Control Systems
- EE 4701: Professional Practice
- EE 4800: Senior Project

Major Electives (15 Credit Hours)
Students must earn a grade of "C" or better in these courses.

Electrical Engineering Technical Electives (9 Credit Hours)
Select 9 credit hours of 3000-4000 level EE coursework not previously used toward degree requirements.
Engineering Science Elective (3 Credit Hours)
Please reach out to your academic advisor for course approval.
Math Elective (3 Credit Hours)

Select 3 credit hours of MATH coursework, above MATH 2335, not previously used toward degree requirements.

Program Total (130 Credit Hours)