



## BACHELOR OF SCIENCE Electrical Engineering

The Bachelor of Science in Electrical Engineering program produces electrical engineering graduates equipped with knowledge and skills in the design, development and implementation of systems and equipment utilizing electricity.

The program includes general education courses, engineering mathematics and natural sciences to initiate the development of program outcomes and ensure that the graduates can understand and articulate the nature of their special roles in society and the impact of their work on the environment.

The BSEE program is designed to guarantee a certain breadth of knowledge in electrical engineering that enables students to analyze and design solutions for complex engineering problems.

The program also provides experiences and opportunities in demonstrating achievements of outcomes in analysis, synthesis, design and relevant professional engineering practice with life-long learning skills.

# The Program in Electrical Engineering builds competencies for these jobs:

- Electrical Systems Design Engineer
- Electrical Equipment Design Engineer
- Power Plant Engineer
- Electrical Operations Engineer
- Electrical Installation Engineer
- Electrical Works Contractor
- Energy Auditor
- Electrical Maintenance Engineer
- Electrical Sales Engineer
- Field Service Engineer
- System Control Engineer
- Electrical Test Engineer
- Transmission Line Field Service Engineer
- Distribution System Field Service Engineer
- Researcher
- Academician

### CORE COURSES

- Differential and Integral Calculus
- Chemistry for Engineers
- Physics for Engineers
- Engineering Data Analysis
- Basic Occupational Safety and Health
- Computer Programming
- Electronic Circuits: Devices and Analysis
- Logic Circuits and Switching Theory
- Fundamentals of Electronic Communications
- Microprocessor Systems
- Computer Aided Drafting
- Engineering Economics
- Engineering Management
- Research Methods
- Technopreneurship

### PROFESSIONAL COURSES

- DC and AC Circuits
- EE Law, Codes and Professional Ethics
- Engineering Mathematics for EE
- Electrical Technology
- Electromagnetics for EE
- Numerical Methods and Analysis
- Feedback Control Systems for EE
- Electrical Standards and Practices
- Electrical Apparatus and Devices
- Electrical Machines
- Materials Science and Engineering for EE
- Industrial Electronics for EE
- Instrumentation and Control
- Electrical Safety
- Power Systems Analysis
- Management of Engineering Projects
- Distribution Systems and Substation Design
- Fundamentals of Power Plant Engineering Design
- Electrical Systems and Illumination Engineering Design
- Methods of Research
- Research Project

### ELECTIVE COURSES

- Energy Engineering
- Renewable Energy
- Energy Access
- Energy Efficiency
- Energy Systems Modeling and Assessment
- Energy Management
- Control Systems
- Automation and Control
- Introduction to LabVIEW
- Introduction to Robotics
- Programmable Logic Circuits

### INTERNSHIP AND SEMINAR COURSES

- Electrical Engineering Industry Internship
- Seminars/Colloquia