



Electrical engineering is a dynamic and exciting field that entails mathematics and science as applied to a wide variety of modern systems. It covers topics related to the areas of communications, satellites, artificial intelligence, biomedical, power systems, renewable energy, electric vehicles, control, signal and image processing, electronics and micro-electronics, IC design, as well as microwaves and RF systems.

It provides virtually endless career opportunities in all sectors of society. The advancements in electrical engineering are considered as one of the main factors in reshaping our modern society in all aspects. Electrical engineers research, design and implement a wide range of systems for every day's life on earth and in space.



Possible Career Options

- Electrical engineer
- Acoustical and sound engineer
- Artificial intelligence and data analytics
- Autonomous vehicles, drones and robots design and manufacturing
- Biomedical engineer
- Computer aided design
- Computer systems engineer
- Control systems
- Electric power generation and distribution
- Electrical and computer engineering academic instructor
- Electronics design and manufacturing
- Instrumentation and control engineer
- Network engineer
- Programmer
- Project engineer or manager
- Research and development
- Safety engineering
- Satellite engineer
- Semiconductor process engineer
- Solar power and renewable energy
- Technical sales
- Telecommunications engineer



Possible Employers

- Space sector and aerospace industry
- Military and police services
- Semiconductor technologies industry
- Renewable energy firms
- Oil and gas industry
- Government agencies
- Telecommunications industry
- Computer/electronics corporations
- Colleges and universities
- Automotive and electric vehicles industry
- Construction companies
- Biomedical electronics industry
- Engineering consultancy firms
- Manufacturing companies
- Factories
- Electrical generation, distribution and transmission industry
- Financial and banking sectors



Skills Acquired

- Knowledge of mathematics, science and electrical engineering concepts
- Ability to design and conduct experiments, analyze and interpret data
- Ability to design a system, component or process to meet desired needs
- Ability to communicate effectively and function on multidisciplinary teams
- Ability to formulate and solve engineering problems
- Understanding of professional and ethical responsibility
- Understanding the impact of engineering solutions in a societal context
- Recognition of the need for, and an ability to engage in, life long learning
- Knowledge of contemporary issues
- Ability to use the techniques, skills and modern engineering tools necessary for engineering practice



Personal Attributes

- Achievement-oriented
- Inquisitive
- Visionary
- Creative
- Patient
- Self-confident
- Perseverance
- Ambitious
- Knowledgeable
- Interested in challenges
- Problem solver
- Ethical and have integrity



Ways to Get Experience

- Doing an internship
- Attending engineering-related seminars, workshops or conventions
- Joining professional engineering organizations such as IEEE
- Working part time with electrical engineering-related firms
- Volunteering or working as part time teaching and research assistants in engineering departments
- Working on engineering research and development projects
- Seeking professional certification