

# Electrical Engineering

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## About the Major

Electrical engineering deals with electricity, from the tiniest computer circuitry to large-scale electronics systems. They design, develop, and manufacture equipment that produces and distributes electricity as well as equipment such as electric motors and machinery. They may also design and develop devices made up of electronic components. Work could be in consumer electronics and optics, power efficiency and storage, telecommunications devices, broadcasting systems, analog circuitry, or many other areas.

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## Marketable Skills and Abilities This Major Develops

- Identifying a problem, exploring that problem more deeply, and creating solutions to solve it
  - Project management
  - Circuit design
  - Apply linear systems theory and analysis
  - Develop electrical schematics
  - Data collection and analysis
  - Build and operate computer systems
  - Prepare operational plans
  - Electronic equipment maintenance
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## Relevant Fields

- Electronics
- Digital Computers
- Power Engineering
- Telecommunications
- Control Systems
- Robotics
- Signal Processing
- Microelectronics

## Occupational Titles/Careers With Bachelor's Degree

- Electrical Technician
- Circuit Design Engineer
- Control Systems Engineer
- Computer Network Architect
- Electrical Design Engineer
- Digital Circuit Design Engineer

## Sample Coursework

- Calculus
  - Physics
  - Programming
  - Computing
  - Electronic Circuits
  - Computer Engineering
  - Electromagnetics
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## Career Opportunities and Job Outlook

According to the Bureau Of Labor Statistics, overall employment of electrical and electronics engineers is projected to grow 7 percent from 2020 to 2030, about as fast as the average for all occupations. About 22,700 openings for electrical and electronics engineers are projected each year, on average, over the decade.

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## Salary Estimates

In the United States, the average salary for an entry level Electrical Engineer is \$68,288. An experienced Electrical Engineer makes about \$99,039 per year.

(This section is intended for information purposes, not a prediction of actual salary)

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## Advanced Degrees

- Masters in Electrical Engineering
- Computing and Technology
- Aerospace
- Energy Engineering
- Business Management
- Architecture
- Automotive Engineering
- Biomedical Engineering

## Professional Associations

- [Institution of Electrical and Electronics Engineers](#)
- [Institution of Engineering and Technology](#)
- [Electronic Power Institute](#)
- [Association for Computing Machinery](#)
- [International Society for Optics and Photonics](#)
- [Society of Women Engineers](#)
- [American Association for the Advancement of Science](#)