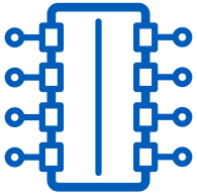


Electrical Engineering

CAREER PROFILE

What is electrical engineering?



As the name suggests, electrical engineers work with electricity and design and develop electrical systems, spanning everything from huge power stations to the tiny circuits in all our appliances. If there is an electric circuit involved, there is likely to be an electrical engineer nearby.

What do electrical engineers do?

Electrical engineering includes various sub-disciplines:

- **Power systems engineers** design, develop, and maintain the systems and machines that generate, transmit, and distribute electricity as well as the electric motors that drive the world.
- **Control engineers** are also called automation engineers and design and develop the electrical systems needed to control many production processes.
- **Electronic and microelectronic engineers** work at the scale of the tiny circuits, components, and microprocessors that are in everything from our washing machines to our watches.
- **Communication and signal processing engineers** work to make our information technology and networks work including the generation of these signals to the infrastructure that carries them around the globe.

How do you become an electrical engineer?

Physics and mathematics are essential. Therefore, you need to take these subjects in school and do well in them. Thereafter, you will need to graduate with a Bachelor of Engineering (or similar) majoring in electrical engineering before deciding if you want to enter the industry or study further.

Here are some general tips for choosing a university or college:

- Make sure the program is **fully accredited** locally and/or internationally.
- Choose an institution that offers a **broad electrical engineering program** so that you can sample as many of the possible sub-disciplines as possible to find the best fit for you.
- Consider accredited engineering programs offered by **technical or community colleges**.

WHAT IS ELECTRICAL ENGINEERING?



WHAT DO ELECTRICAL ENGINEERS DO?



TYPICAL EMPLOYERS

Typical employers include large private companies and research organizations:

- GE Vernova
- Software companies like Microsoft
- Electricity generating companies
- Consumer product companies like Samsung



What are the careers prospects for an electrical engineer?

One of the many benefits of electrical engineering is that there are so many varied sub-disciplines and that electrical engineers are, therefore, needed in so many different industries. Electrical engineers, in most parts of the world, are **highly valued and very well paid**.

Meet some electrical engineers

Watch the following videos to meet some inspiring electrical engineers.

ALLEN PARKER

Allen grew up loving electronics. From early on, his mother said that he would one day work for NASA and that is exactly what Allen does.



PENN STATE STUDENTS AND ALUMNI

Hear from various Penn State College of Engineering students and alumni about their study and work experiences.



KATELYNN JOURDAN

Hear Katelynn describe her life as an electrical engineer and why she loves her job so much. She also explains why she would encourage you to become an electrical engineer.

