



ELECTRICIAN

JOB DESCRIPTION

Electricians install and repair electrical equipment, such as power circuits, lighting, switches, and other fittings. Most work on site, visiting homes, shops, offices, and factories. Others train in specialized areas, such as street lighting, high-voltage systems used to transmit electricity over long distances, or the electrical wiring that supplies power to heavy industries.



SALARY

Trainee electrician ★★☆☆☆

Experienced electrician ★★★★★

INDUSTRY PROFILE

Wide variety of employment options • Self-employment is common • Salaries can vary considerably depending on specialty and experience

AT A GLANCE



YOUR INTERESTS Electronics • Mathematics • Physics • Engineering • Information Technology (IT) • Buildings and maintenance



ENTRY QUALIFICATIONS There are no set requirements, but employers who offer apprenticeships often look for candidates with a high-school diploma.



LIFESTYLE Most electricians have regular hours, but may have to work evenings or weekends, or be on call for emergency repairs.



LOCATION Electricians work on site in a variety of settings, such as homes, factories, or shops.



THE REALITIES The job can involve working in cramped or dirty spaces. Keeping track of changing building regulations can be challenging.

▼ RELATED CAREERS

- ▶ **ELECTRICAL ENGINEER** *see pp. 186–187*
- ▶ **DOMESTIC APPLIANCE ENGINEER** Installs and repairs appliances, such as washing machines, electric cooking ranges, and fridges in homes.
- ▶ **ENERGY ENGINEER** Develops new methods of extracting energy from existing methods, such as electricity, nuclear power plants, and wind turbines.
- ▶ **KITCHEN FITTER** Installs kitchen interiors, including counters and cabinets, following designs and layouts accurately to achieve the look requested by the customer.
- ▶ **RAILROAD TECHNICIAN** Fits and maintains control panels, tracks, power lines, and other electrical equipment used on railroads.

Most electricians qualify through an apprenticeship or training program.

CAREER PATHS

The industry is tightly regulated, so you will need to complete approved training, finish an apprenticeship, and, in most states, obtain a license. Many electricians are self-employed or work as contractors for construction companies. Others are employed by manufacturers, engineering companies, or government bodies.

TRAINEE Apprenticeships are available and a vital part of becoming an electrician. These combine college study through community colleges or technical schools with on-the-job training for a complete overview of the electrician's role.



ELECTRICIAN Once qualified and licensed, you can take more vocational training courses to expand your range of skills or specialize in a specific area, to earn a better salary.



INSTALLATION ELECTRICIAN

Fits lighting, sockets, network cables, and other electrical equipment in commercial and domestic properties.



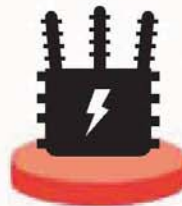
MAINTENANCE ELECTRICIAN

Repairs, tests, and certifies equipment used by businesses to ensure they meet safety standards.



HIGHWAY ELECTRICIAN

Specializes in installing and maintaining street lighting, traffic controls, and other electrical equipment used by the transportation system.



ENGINEERING TECHNICIAN

Works on industrial equipment, such as generators, production lines, and control systems. This job requires further training.



SITE MANAGER

Oversees the entire electrical installation at a business or residential construction site, or manages the electrical systems in a factory.

SKILLS GUIDE



The ability to communicate effectively with customers, verbally and in writing.



Analytical skills for diagnosing faults and finding cost-effective solutions to electrical problems.



Good numerical skills for calculating electrical loads and taking accurate measurements.



Manual dexterity to perform complex wiring tasks and handle power tools and other devices.



The physical ability to work in confined spaces, in all types of weather conditions.