



INDEPENDENT
ELECTRICAL
CONTRACTORS

LEARN MORE ABOUT ELECTRICIANS

This quick guide will give you a glimpse at what electricians actually do day to day. This profession is always expanding to new areas and is an essential occupation, meaning job security into the future.

LEARN MORE AT THE U.S. BUREAU OF LABOR
STATISTICS WEBSITE:

[bls.gov/ooh/construction-and-extraction/
electricians.htm](https://bls.gov/ooh/construction-and-extraction/electricians.htm)



WHAT ELECTRICIANS DO

Electricians install, maintain, and repair electrical power, communications, lighting, and control systems in homes, businesses, and factories.

DUTIES

- **Read blueprints** or technical diagrams
- **Install and maintain** wiring, control, and lighting systems
- **Inspect electrical components**, such as transformers and circuit breakers
- **Identify electrical problems** using a variety of testing devices
- **Repair or replace** wiring, equipment, or fixtures using hand tools and power tools
- **Follow state and local building regulations** based on the National Electrical Code
- **Direct and train workers** to install, maintain, or repair electrical wiring or equipment

Almost every building has an electrical power, communications, lighting, and control system that is installed during construction and maintained after that. These systems power the lights, appliances, and equipment that make people's lives and jobs easier and more comfortable.

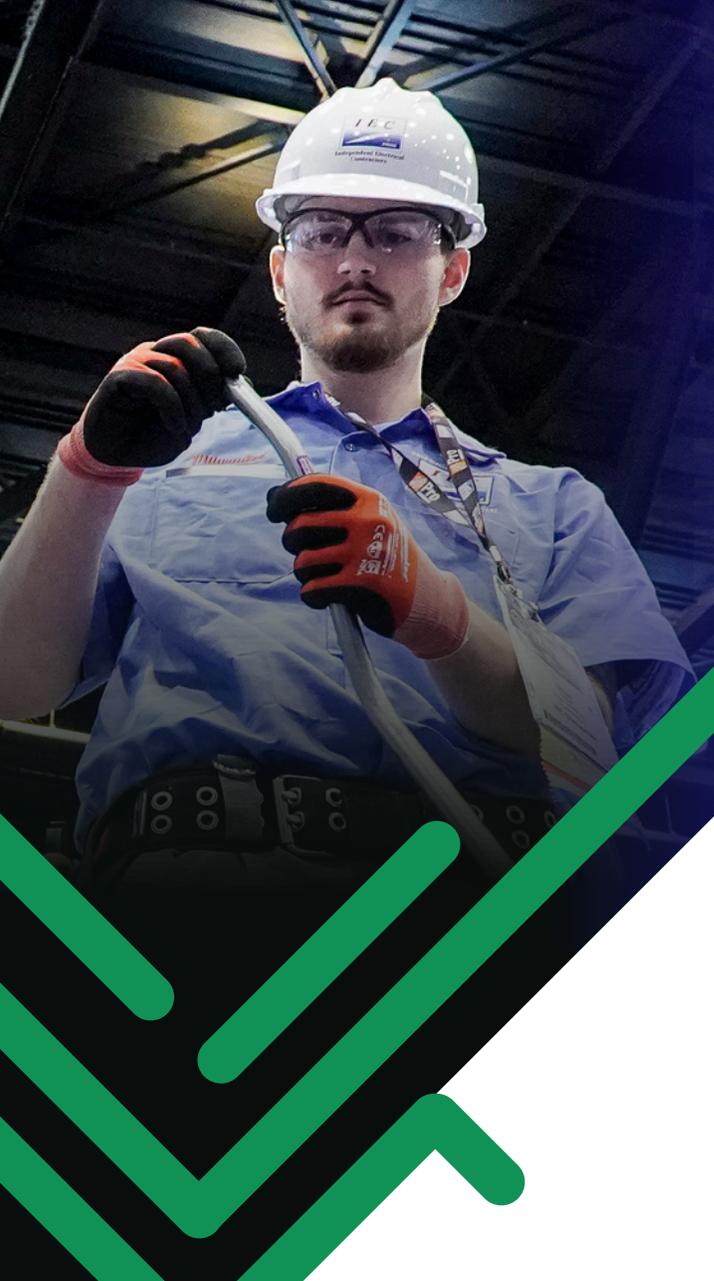
Installing electrical systems in newly constructed buildings is often less complicated than maintaining equipment in existing buildings because electrical wiring is more easily accessible during construction. Maintaining equipment

and systems involves identifying problems and repairing broken equipment that is sometimes difficult to reach. Maintenance work may include fixing or replacing parts, light fixtures, control systems, motors, and other types of electrical equipment.

Electricians read blueprints, which include technical diagrams of electrical systems that show the location of circuits, outlets, and other equipment. They use different types of hand tools and power tools, such as conduit benders, to run and protect wiring. Other commonly used tools include screwdrivers, wire strippers, drills, and saws. While troubleshooting, electricians also may use ammeters, voltmeters, thermal scanners, and cable testers to find problems and ensure that components are working properly.

Many electricians work alone, but sometimes they collaborate with others. For example, experienced electricians may work with building engineers and architects to help design electrical systems for new construction. Some electricians may also consult with other construction specialists, such as elevator installers and heating and air conditioning workers, to help install or maintain electrical or power systems. Electricians employed by large companies are likely to work as part of a crew; they may direct helpers and apprentices to complete jobs.

Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, Electricians, on the Internet at <https://www.bls.gov/ooh/construction-and-extraction/electricians.htm> (visited October 06, 2020).



WORK ENVIRONMENT FOR ELECTRICIANS

Electricians work indoors and outdoors at homes, businesses, factories, and construction sites. Because electricians must travel to different worksites, local or long-distance commuting is often required.

On the jobsite, they occasionally work in cramped spaces. The long periods of standing and kneeling can be tiring. Electricians may be exposed to dirt, dust, debris, or fumes. Those working outside may be exposed to hot or cold temperatures and inclement weather. Those who work in factories are often subject to noisy machinery.

Electricians may be required to work at great heights, such as when working on construction sites, inside buildings, or on renewable energy projects.

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INJURIES AND ILLNESSES

Working with electricity is dangerous. Electricians must take precautions to avoid getting hurt. Although accidents are potentially fatal, common injuries include electrical shocks, falls, burns, and other minor injuries.

To reduce these risks, workers must wear protective clothing and safety glasses. Electricians who are subject to loud noises, such as those in factories, must wear hearing protection.



WORK SCHEDULES

Almost all electricians work full time. Work schedules may include evenings and weekends. Overtime is common.

Self-employed electricians often work in residential construction and may be able to set their own schedule.