

Career Profile

A weekly series devoted to providing information on career exploration



For the next several weeks we will feature careers in the Construction industries. According to the Bureau of Labor Statistics Employment Outlook: 2010–2020 Industry Employment and Output Projections Report, employment in the construction sector is projected to increase from more than 5.5 million in 2010 to nearly 7.4 million in 2020. The increase of 1.8 million jobs is among the largest increases in employment of all industries.

CAREERS IN CONSTRUCTION INDUSTRY

The type of work

- Plan layout and installation of electrical wiring, equipment, or fixtures, based on job specifications and local codes.
- Connect wires to circuit breakers, transformers, or other components.
- Test electrical systems or continuity of circuits in electrical wiring, equipment, or fixtures, using testing devices, such as ohmmeters, voltmeters, or oscilloscopes, to ensure compatibility and safety of system.
- Use a variety of tools or equipment, such as power construction equipment, measuring devices, power tools, and testing equipment, such as oscilloscopes, ammeters, or test lamps.
- Inspect electrical systems, equipment, or components to identify hazards, defects, or the need for adjustment or repair, and to ensure compliance with codes.
- Prepare sketches or follow blueprints to determine the location of wiring or equipment and to ensure conformance to building and safety codes.
- Diagnose malfunctioning systems, apparatus, or components, using test equipment and hand tools to locate the cause of a breakdown and correct the problem.
- Work from ladders, scaffolds, or roofs to install, maintain, or repair electrical wiring, equipment, or fixtures.
- Advise management on whether continued operation of equipment could be hazardous.
- Maintain current electrician's license or identification card to meet governmental regulations.

More Facts ?

Cities around the globe are trying to figure out how to 'grow green' – i.e., how to generate economic activity that preserves and enhances environmental quality while using natural resources more efficiently. Though the path to reducing human impact on the environment is clear, we are less sure about how to grow our economies and benefit society's least advantaged members at the same time – in other words, how to link the three E's (environment, economy, and equity) of development. At its most basic level, the green economy is the clean energy economy, consisting primarily of four sectors: renewable energy (e.g. solar, wind, geothermal); green building and energy efficiency technology; energy-efficient infrastructure and transportation; and recycling and waste-to-energy. The green economy is not just about the ability to produce clean energy, but also technologies that allow cleaner production processes, as well as the growing market for products which consume less energy, from fluorescent light-bulbs to organic and locally produced food.

Source: *Defining the Green Economy: A Primer on Green Economic Development*
Author: Karen Chapple, City & Regional Planning at the University of California, Berkeley.

THE FUTURE OUTLOOK

Employment of electricians is projected to grow 20% from 2012 to 2022, faster than the average for all occupations. Overall growth of the construction industry and the need to maintain older equipment in manufacturing plants also will require more electricians.

Alternative power generation, such as solar and wind, is an emerging field that should require more electricians for installation. Increasingly, electricians will be needed to link these alternative power sources to homes and power grids over the coming decade.

In 2012 there were 583,500 persons employed as electricians with a projected increase of 20%. In Ohio there were nearly 21,400 with a projected increase of 16%.



ELECTRICIANS

Jim Traut, President
Electrical Accents, LLC
South Amherst, Ohio

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

Q. How did you become interested in your particular field?

A. I have always enjoyed working with my hands. As a family growing up, we were always involved with each other's projects. I never felt I have been a scholar of any kind. My dad told me to join the military, or find a trade. It was never my intention to become an electrician. It found me. It was something that came natural and enjoyable.

Q. How did you get to where you are today? What path did your employment journey take?

A. My journey started as everyone's does, at the bottom. I have worked for many different residential, commercial, and industrial contractors. My desire to keep learning and educate myself from classroom training, electrical education books, and study of the National Electric Code has certainly been beneficial. Working with other electricians throughout the years, you learn techniques that work the best and worst. As my career progressed, it became clear the path of self-employment was the best way to provide for my family.

Q. What skills or certifications do you think are needed to be successful in this field?

A. Very basic human skills of willingness to learn, and to have patience with yourself and others. Being able to realize your mistakes, and learn from them. You cannot have success without failure. Certifications are always valuable, but the reality of it is you cannot perform and be a valuable employee without being reliable, responsible, and trustworthy. The transparency will become evident.

Q. What changes have you seen in the last few years in your industry?

A. The electrical industry is an ongoing process of protecting people and property from hazards such as fire and electrocution. Energy efficient products and safer, more reliable electrical equipment has become the new norm for our trade. When accidents do happen, it echoes throughout the industry, and raises questions on how it happened, and how we can prevent it from happening.

Q. What is the best part of your job?

A. The best part of my job is knowing we have created a positive culture at Electrical Accents, where an employee can come to work feeling comfortable, and perform well to the best and safest electrical practices. When our employees are successful, the company is successful. Satisfied and happy customers come from healthy, happy, and dedicated employees.

Q. Do you have any words of advice for someone considering a career in your field?

A. The electrical trade is not something learned overnight. You must adapt to different weather environments. Be ready and willing to get dirty, work hard, and continue to learn. Find a company with the right culture, where you can feel comfortable with the confidence in knowing your leaders are looking out for your best interest for you and your career at hand.

EARNINGS POTENTIAL

Annual Salary for 2014

Location	Low	Median	High
United States	\$31,700	\$51,110	\$85,590
Ohio	\$31,340	\$50,190	\$74,530
Cleveland-Elyria-Mentor, OH PMSA	\$36,260	\$57,950	\$86,170

O*Net Online, <http://online.onetcenter.org>

Pathways to success:

A high school diploma or equivalent is required. Some electricians start out by attending a technical school. Many technical schools offer programs related to circuitry, safety practices, and basic electrical information. Graduates usually receive credit toward their apprenticeship. After completing their initial training, electricians may be required to take continuing education courses. These courses are usually related to safety practices, changes to the electrical code, and training from manufacturers in specific products.

Most electricians learn their trade in a 4- or 5-year apprenticeship program. For each year of the program, apprentices must complete at least 144 hours of technical training and 2,000 hours of paid on-the-job training..



What Employers look for in individuals:

- Building and Construction - materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.
- Mechanical - machines and tools, including their designs, uses, repair, and maintenance.
- Mathematics - arithmetic, algebra, geometry, calculus, statistics, and their applications.
- Design - design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.
- English Language - structure and content of

the English language including the meaning and spelling of words, rules of composition, and grammar.

- Public Safety and Security - relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.
- Customer and Personal Service - principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.

Sponsors



Sources: Occupational Information Network, O*Net Online, <http://online.onetcenter.org>.** U.S. Department of Labor, Bureau of Labor Statistics, Occupational Outlook Handbook, <http://stats.bls.gov/ocoeHow.com>