



# Electricians

## SKILLS YOU NEED

### Basic Skills:

- Reading Comprehension
  - Active Listening
  - Speaking
  - Mathematics
- Critical Thinking
  - Active Learning
- Learning Strategies
  - Monitoring

## WHAT THEY DO

Installs, maintains, and repairs electrical wiring, equipment, and fixtures. Ensures that work is in accordance with relevant codes. May install or service street lights, intercom systems, or electrical control systems. Belongs to the Architecture and Construction cluster and Construction pathway.

## IS THIS FOR YOU?

**Work Interests** are described in the following categories (compatible with Holland's Model) by people who tend to succeed in this career:

- **Realistic** – You are a "doer". You like physical activities and projects. You like to find the answers to problems by doing hands-on work instead of talking about solutions.

**Work Values** are aspects of work that are satisfying to you. The following work values are generally associated with this career.

- **Independence** – It's very important to you that your work allows you to make decisions on your own. You want to try out your own ideas and work with little supervision.
- **Support** – It's very important to you to know the company stands behind its workers and has competent, considerate and fair management.

**Aptitudes** reflect a person's ability to acquire skills and knowledge. The following aptitudes are important for success in the career:

- **General Learning Ability**
- **Spatial Perception**
- **Form Perception**
- **Finger Dexterity**
- **Manual Dexterity**

## Transferable Skills (applicable in other careers): High level

- Observing and diagnosing electrical/electronic problems
- Repairing electrical/electronic objects
- Using construction hand and power tools
- Using electrical repair hand and power tools
- **Medium level**
- Explaining electrical/electronic operations and problems
- Following construction blueprints and plans
- Using electrical/electronic testing instruments
- Using welding and soldering machines and equipment

## Workplace Skills:

### Medium level

- Complex Problem Solving
- Coordination
- Equipment Maintenance
- Equipment Selection
- Installation
- Instructing
- Judgment and Decision Making
- Operation and Control
- Operation Monitoring
- Quality Control Analysis
- Repairing
- Systems Analysis
- Systems Evaluation
- Time Management
- Troubleshooting

Additional skills for this occupation may be found at <http://www.iowaworkforcedevelopment.gov/career-exploration-resources>

## ESTIMATED & PROJECTED EMPLOYMENT

Occupational Title	2012 Estimated Employment	2022 Projected Employment	2012-22 Employment Change	Annual Growth Rate (%)	Total Annual Openings
Total, All Occupations	1,758,205	1,955,480	197,275	1.1	61,665
Construction & Extraction Occupations	75,710	93,145	17,435	2.3	2,980
Electricians	7,350	8,830	1,480	2.0	285

Source: <http://www.iowaworkforcedevelopment.gov/occupational-projections-0>

## 2015 WAGE & SALARY (\$)

Occupational Title	Average Wage	Average Salary	Entry Wage	Entry Salary	Experienced Wage	Experienced Salary
Total, All Occupations	19.77	41,122	9.55	19,858	24.88	51,755
Construction & Extraction Occupations	20.49	42,624	13.28	27,621	24.10	50,125
Electricians	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.

Source: <http://www.iowaworkforcedevelopment.gov/occupational-projections-0>

## EDUCATION & TRAINING

Education	Work Experience	Job Training
High School Diploma	None	Apprenticeship

Most electricians learn their trade in a 4-year apprenticeship. 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. In the classroom, apprentices learn electrical theory, blueprint reading, mathematics, electrical code requirements, and safety and first-aid practices. They also may receive specialized training related to soldering, communications, fire alarm systems, and elevators. Because of this comprehensive training, those who complete apprenticeship programs qualify to do both construction and maintenance work. After completing an apprenticeship program, electricians are considered to be journey workers and may perform duties on their own. Several groups, including unions and contractor associations, sponsor apprenticeship programs. The basic qualifications to enter an apprenticeship program are as follows: Minimum age of 18 High school education or equivalent One year of algebra Qualifying score on an aptitude test Drug free Some electrical contractors have their own training program. Although most workers enter apprenticeships directly, some start out as helpers. Approved apprenticeship programs/sponsors in Iowa can be found at [http://access.bridges.com/ext/cp/custom\\_state\\_data/iowa\\_apprenticeship/4721110.htm](http://access.bridges.com/ext/cp/custom_state_data/iowa_apprenticeship/4721110.htm) Source: <http://www.iowaworkforcedevelopment.gov/occupational-projections-0> and <https://secure.ihaveaplaniowa.gov/>

## NATIONAL CAREER READINESS CERTIFICATE (NCRC)

Skill	Median Skill Level
Applied Mathematics	5
Locating Information	5
Reading for Information	5



This ACT-developed credential demonstrates achievement and a certain level of workplace employability skills. The greater the score, the greater the skill level (Bronze = 3, Silver = 4, Gold = 5, Platinum = 6).

Source: <http://www.act.org/workkeys/analysis/occup.html>

## PRIMARY INDUSTRY SECTORS

### (Where are Electricians Employed?)

- Specialty Trade Contractors
- Machinery Mfg
- Self Employed
- Construction of Buildings
- Local Government
- Transportation Equipment Mfg
- Animal Production
- Food Mfg
- Utilities

## ADDITIONAL SOURCES:

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Source: <http://www.iowaworkforcedevelopment.gov/occupational-projections-0>