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Summary of Job Duties

Electricians <u>Video</u> - Install, maintain, and repair electrical wiring, equipment, and fixtures. Ensure that work is in accordance with relevant codes. May install or service street lights, intercom systems, or electrical control systems.

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Detailed Job Description

Electricians Electricians often cap wires before installing an outlet.

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

Duties

Electricians typically do the following:

• 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 and power tools, such as conduit benders, to run and protect wiring. Other commonly used hand and power 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. At larger companies, electricians are more likely to work as part of a crew; they may direct helpers and apprentices to complete jobs.

Although lineman electricians install distribution and transmission lines to deliver electricity from its source to customers, they are covered in the line installers and repairers profile.

Source: <u>U.S. Department of Labor Bureau of Labor Statistics</u>

Job Zone

The section below shows the job zone information for Electricians. Job Zone Three: Medium Preparation Needed.

Education	Experience	Training

Education	Experience	Training
Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree.	Previous work-related skill, knowledge, or experience is required for these occupations. For example, an electrician must have completed three or four years of apprenticeship or several years of vocational training, and often must have passed a licensing exam, in order to perform the job.	Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers. A recognized apprenticeship program may be associated with these occupations.

Jobs Available

This section shows the number of job openings advertised online in Louisiana for Electricians and for the related occupational group of Construction and Extraction Occupations on November 22, 2020 (Jobs De-duplication Level <u>2</u>).

Occupation	Job Openings
Electricians • •	<u>109</u>
Construction and Extraction Occupations	<u>748</u>

BRIGHT OUTLOOK NATIONALLY FREEN OCCUPATIONS

Source: Online advertised jobs data

Monthly Job Count

This section shows the number of job openings advertised online for Electricians in Louisiana October, 2020 (Jobs De-duplication Level 2).

Occupation	Job Openings
Electricians • •	185

BRIGHT OUTLOOK NATIONALLY PREEN OCCUPATIONS

Source: Online advertised jobs data

Jobs Area Distribution

This section shows the distribution of number of job openings advertised online for Electricians in Louisiana by parishes on November 22, 2020 (Jobs De-duplication Level <u>2</u>).

Job Source: Online advertised jobs data

Wage Source: Labor Market Statistics, Occupational Employment Statistics Program
The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Data is from a 2019 survey.

Jobs in Related Occupations

This section shows the number of job openings advertised online in Louisiana for occupations related to Electricians on November 22, 2020 (Jobs De-duplication Level <u>2</u>).

Rank	Occupation	Median Wage	Job Openings	*Related By
1	Electricians • 🖊	\$50,806	<u>109</u>	N/A
2	Maintenance and Repair Workers, General	\$35,576	<u>109</u>	O*NET
3	Heating and Air Conditioning Mechanics and Installers.	\$43,564	<u>86</u>	O*NET
4	<u>Plumbers</u> ❖ ≠	\$55,149	<u>75</u>	O*NET

Rank	Occupation	Median Wage	Job Openings	*Related By
5	Mobile Heavy Equipment Mechanics, Except Engines	\$47,800	<u>51</u>	O*NET
6	Automotive Master Mechanics	\$38,386	<u>49</u>	O*NET
7	Refrigeration Mechanics and Installers • •	\$43,564	<u>49</u>	O*NET
8	<u>Telecommunications Equipment Installers</u> <u>and Repairers, Except Line Installers</u>	\$65,186	<u>41</u>	O*NET
9	Pipe Fitters and Steamfitters • •	\$55,149	<u>40</u>	O*NET
10	Construction Carpenters • •	\$45,602	<u>38</u>	O*NET
11	Aircraft Mechanics and Service Technicians	\$63,520	<u>27</u>	O*NET
12	Painters, Construction and Maintenance	\$42,182	<u>26</u>	SOC4
13	<u>Millwrights</u> ◆ ≠	\$58,468	<u>23</u>	O*NET
14	Electrical and Electronics Repairers, Commercial and Industrial Equipment	\$62,553	<u>18</u>	O*NET
15	Industrial Machinery Mechanics •	\$55,230	<u>14</u>	O*NET
16	<u>Roofers</u>	\$37,593	<u>9</u>	SOC4
17	Stationary Engineers and Boiler Operators •	\$46,792	<u>8</u>	O*NET
18	<u>Pipelayers</u> •	\$32,804	<u>6</u>	SOC4
19	Commercial Pilots	\$81,173	<u>5</u>	O*NET
20	Ship Engineers	\$75,879	<u>5</u>	O*NET
21	<u>Glaziers</u> 🌣	\$39,516	<u>4</u>	SOC4
22	Manufactured Building and Mobile Home Installers	N/A	<u>4</u>	O*NET
23	Insulation Workers, Floor, Ceiling, and Wall	\$43,518	<u>3</u>	SOC4
24	Chemical Plant and System Operators •	\$69,220	<u>3</u>	O*NET
25	Reinforcing Iron and Rebar Workers	\$64,066	<u>2</u>	SOC4
26	Robotics Technicians •	\$65,257	<u>1</u>	O*NET
27	<u>Pilots, Ship</u>	\$96,513	1	O*NET

Job Source: Online advertised jobs data

Wage Source: Labor Market Statistics, Occupational Employment Statistics Program
The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less

than the median wage, and 50 percent earn more than the median wage. Data is from a 2019 survey.

*Related By: O*NET™ - The Occupational Information Network. O*NET is a registered trademark of the US Department of Labor/Employment and Training Administration.

SOC4 - Occupational grouping based on 1st 4 digits of the <u>Standard Occupational Classification</u> system.

Candidates Available

This section shows potential candidates in the workforce system in Louisiana for Electricians and for the related occupational group of Construction and Extraction Occupations on November 22, 2020.

Occupation	Candidates
Electricians • 🔎	1,462
Construction and Extraction Occupations	26,207

BRIGHT OUTLOOK NATIONALLY | GREEN OCCUPATIONS

Source: Individuals with active résumés in the workforce system.

Candidate Area Distribution

This section shows the distribution of potential candidates in the workforce system for Electricians in Louisiana by parishes on November 22, 2020.

Rank	Area Name	Median Wage	Candidates
1	<u>Jefferson Parish</u>	\$50,806 state level wages	790
2	Orleans Parish	\$50,806 state level wages	755
3	East Baton Rouge Parish	\$50,806 state level wages	741
4	Ascension Parish	\$50,806 state level wages	716
5	<u>Livingston Parish</u>	\$50,806 state level wages	682
6	St. Charles Parish	\$50,806 state level wages	681

Rank	Area Name	Median Wage	Candidates
7	<u>Calcasieu Parish</u>	\$50,806 state level wages	675
8	St. John the Baptist Parish	\$50,806 state level wages	669
9	St. James Parish	\$50,806 state level wages	654
10	<u>Iberville Parish</u>	\$50,806 state level wages	653

Candidate Source: Individuals with active résumés in the workforce system.

Wage Source: Labor Market Statistics, Occupational Employment Statistics Program

The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Data is from a 2019 survey.

Candidates in Related Occupations

This section shows how many potential candidates in the workforce system were looking for work in Louisiana in occupations related to Electricians on November 22, 2020.

Rank	Occupation	Median Wage	Candidates	*Related By
1	Chemical Plant and System Operators •	\$69,220	2,180	O*NET
2	Construction Carpenters • •	\$45,602	2,132	O*NET
3	Maintenance and Repair Workers, General	\$35,576	1,757	O*NET
4	Electricians • 🔎	\$50,806	1,462	N/A
5	Pipe Fitters and Steamfitters • •	\$55,149	1,364	O*NET
6	Painters, Construction and Maintenance	\$42,182	960	SOC4
7	Electrical and Electronics Repairers, Commercial and Industrial Equipment	\$62,553	553	O*NET
8	<u>Millwrights</u> ◆ ≠	\$58,468	382	O*NET
9	Insulation Workers, Mechanical >	\$45,672	366	SOC4
10	Heating and Air Conditioning Mechanics and Installers	\$43,564	351	O*NET
11	Industrial Machinery Mechanics •	\$55,230	279	O*NET
12	Aircraft Mechanics and Service Technicians	\$63,520	218	O*NET
13	Automotive Master Mechanics	\$38,386	185	O*NET
14	<u>Telecommunications Equipment Installers</u> <u>and Repairers, Except Line Installers</u>	\$65,186	170	O*NET
15	Commercial Divers	\$43,960	170	O*NET
16	<u>Plumbers</u> ◆ ≠	\$55,149	160	O*NET
17	Insulation Workers, Floor, Ceiling, and Wall	\$43,518	130	SOC4
18	Mobile Heavy Equipment Mechanics, Except Engines	\$47,800	113	O*NET
19	<u>Pipelayers</u> •	\$32,804	105	SOC4
20	<u>Roofers</u>	\$37,593	99	SOC4
21	Reinforcing Iron and Rebar Workers	\$64,066	50	SOC4
22	Refrigeration Mechanics and Installers • •	\$43,564	49	O*NET

Rank	Occupation	Median Wage	Candidates	*Related By
23	<u>Glaziers</u> →	\$39,516	46	SOC4
24	Plasterers and Stucco Masons	\$35,824	26	SOC4
25	Stationary Engineers and Boiler Operators •	\$46,792	24	O*NET
26	<u>Ship Engineers</u>	\$75,879	24	O*NET
27	Robotics Technicians •	\$65,257	19	O*NET
28	Commercial Pilots >	\$81,173	13	O*NET
29	<u>Airline Pilots, Copilots, and Flight</u> <u>Engineers</u>	N/A	12	O*NET
30	Manufactured Building and Mobile Home Installers	N/A	10	O*NET
31	<u>Pilots, Ship</u>	\$96,513	8	O*NET
32	Forest and Conservation Technicians	N/A	5	O*NET
33	<u>Paperhangers</u>	N/A	4	SOC4
34	Plumbers, Pipefitters, and Steamfitters.	\$55,149	3	SOC4
35	Elevator Installers and Repairers	Confidential	2	O*NET

BRIGHT OUTLOOK NATIONALLY FREEN OCCUPATIONS

Candidate Source: Individuals with active résumés in the workforce system.

Wage Source: Labor Market Statistics, Occupational Employment Statistics Program

The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Data is from a 2019 survey.

*Related By: O*NET™ - The Occupational Information Network. O*NET is a registered trademark of the US Department of Labor/Employment and Training Administration.

SOC4 - Occupational grouping based on 1st 4 digits of the <u>Standard Occupational Classification</u> system.

Jobs and Candidates Available

This section shows the number of job openings advertised online, as well as potential candidates in the workforce system in Louisiana for Electricians and for the related occupational group of Construction and Extraction Occupations on November 22, 2020 (Jobs De-duplication Level <u>2</u>).

Occupation	Job Openings	Candidates	Candidates per Job
Electricians • 🖊	<u>109</u>	1,462	13.41
Construction and Extraction Occupations	<u>748</u>	26,207	35.04

BRIGHT OUTLOOK NATIONALLY FREEN OCCUPATIONS

Job Source: Online advertised jobs data Candidate Source: Individuals with active résumés in the workforce system.

Jobs and Candidates Area Distribution

This section shows the distribution of number of job openings advertised online, as well as potential candidates in the workforce system for Electricians in Louisiana by parishes on November 22, 2020 (Jobs De-duplication Level <u>2</u>).

Rank	Area Name	Median Wage	Job Openings	Candidates	Candidates per Job
1	Ascension Parish	\$50,806 state level wages	<u>1</u>	716	716.00
2	<u>Livingston Parish</u>	\$50,806 state level wages	<u>1</u>	682	682.00
3	<u>Tangipahoa Parish</u>	\$50,806 state level wages	<u>1</u>	642	642.00
4	West Baton Rouge Parish	\$50,806 state level wages	<u>1</u>	636	636.00
5	<u>Cameron Parish</u>	\$50,806 state level wages	<u>1</u>	626	626.00
6	<u>Iberia Parish</u>	\$50,806 state level wages	<u>1</u>	610	610.00
7	<u>Plaquemines Parish</u>	\$50,806 state level wages	<u>1</u>	610	610.00
8	Washington Parish	\$50,806 state level wages	<u>1</u>	573	573.00
9	Bossier Parish	\$50,806 state level wages	<u>1</u>	565	565.00

Rank	Area Name	Median Wage	Job Openings	Candidates	Candidates per Job
10	Sabine Parish	\$50,806 state level	<u>1</u>	549	549.00
		wages			

Job Source: Online advertised jobs data
Candidate Source: Individuals with active résumés in the workforce system.
Wage Source: Labor Market Statistics, Occupational Employment Statistics Program
The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Data is from a 2019 survey.

National Supply and Demand Summary

Electricians Employment of electricians is projected to grow 9 percent from 2016 to 2026, about as fast as the average for all occupations. Increases in construction spending and growing demand for alternative energy sources will drive demand for 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. Employment growth stemming from

these sources, however, will largely be dependent on government policy.

Job Prospects

Electricians who can perform many different tasks, such as electronic systems repair, solar photovoltaic installation, and industrial component wiring, should have the best job opportunities.

Employment of electricians fluctuates with the overall economy. On the one hand, there is greater demand for electricians during peak periods of building construction and maintenance. On the other hand, workers may experience periods of unemployment when the overall level of construction and maintenance falls.

Source: <u>U.S. Department of Labor Bureau of Labor Statistics</u>

Employers by Number of Job Openings

This section shows the employers with the highest number of job openings advertised online for Electricians in Louisiana on November 22, 2020 (Jobs De-duplication Level <u>2</u>).

Rank	Employer Name	Job Openings
1	Army National Guard	<u>15</u>
2	Rogers	<u>4</u>
3	Aptim	<u>3</u>
4	City of New Orleans, LA	<u>3</u>
5	Archer Daniels Midland Company	<u>2</u>
6	City of Baton Rouge/Parish of East Baton Rouge	<u>2</u>
7	EMCOR Group, Inc.	<u>2</u>
8	IMTT	<u>2</u>
9	ISC Constructors, LLC	<u>2</u>
10	John Wood Group PLC	<u>2</u>

Source: Online advertised jobs data

Advertised Job Skills

This section shows the top advertised detailed job skills found in job openings advertised online for Electricians in Louisiana in October, 2020. (Jobs De-duplication Level 1)

Rank Advertised Detailed Job Skill Advertised Skill Group

Job Opening Match
Count

Rank	Advertised Detailed Job Skill	Advertised Skill Group	Job Opening Match Count
1	Repair wiring	Electrician Skills	<u>25</u>
2	Repair electrical wiring	Electrician Skills	<u>15</u>
3	Connect wires to circuit breakers	Electrician Skills	<u>13</u>
4	Running conduit	Electrician Skills	<u>11</u>
5	Replace wiring	Electrician Skills	<u>11</u>
6	Repair maintenance	Maintenance Technician Skills	<u>10</u>
7	Purchase orders	Bookkeeper Skills	<u>10</u>
8	Repairing wire systems	Electrician Skills	<u>10</u>
9	Connects power cables	Electrician Skills	9
10	Attention to detail	Basic Skills	9

Source: Online advertised jobs data

Advertised Tools and Technology

This section shows the top advertised detailed tools and technologies found in job openings advertised online for Electricians in Louisiana in October, 2020. (Jobs De-duplication Level 1)

Rank	Advertised Detailed Tool or Technology	Advertised Tool and Technology Group	Job Opening Match Count
1	Transformers	Instrument Transformers	<u>45</u>
2	Circuit breakers	Circuit Breakers	<u>38</u>
3	Ladders	Ladders	<u>31</u>
4	Grills	Commercial Use Grills	<u>18</u>
5	Generators	Gas Generators	<u>17</u>
6	Aerial Lift	Manlift or Personnel Lift	<u>14</u>
7	Voltmeters	Voltage or Current Meters	<u>14</u>
8	Oscilloscopes	Oscilloscopes	<u>13</u>
9	Scissor Lift	Scissor Lift or Lift Table	<u>13</u>
10	Intercom systems	Intercom Systems	<u>12</u>

Source: Online advertised jobs data

Typical Job Skills

This section shows the job skills that are related to Electricians.

Rank	Typical Job Skills	Typical Skill Category
1	Plan layout of construction, installation, or repairs	Mental Processes
2	Install electrical components, equipment, or systems	Work Output
3	Test electrical equipment or systems to ensure proper functioning	Information Input
4	Inspect electrical or electronic systems for defects	Information Input
5	Create construction or installation diagrams	Mental Processes
6	Repair electrical equipment	Work Output
7	Thread wire or cable through ducts or conduits	Work Output
8	Communicate with other construction or extraction personnel to discuss project details	Interacting With Others
9	Update job related knowledge or skills	Mental Processes
10	Direct construction or extraction personnel	Interacting With Others
11	Train construction or extraction personnel	Interacting With Others
12	Assist skilled construction or extraction personnel	Work Output
13	Estimate construction project costs	Information Input
14	Order construction or extraction materials or equipment	Interacting With Others
15	Prepare operational reports	Work Output
16	Fabricate parts or components	Work Output
17	Dig holes or trenches	Work Output

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Personal Skills

This section shows the personal skills that are most useful for Electricians. Click on a link in the Personal Skills column to view more detailed information.

Rank by	Importance	(Out
	of	100)

Personal Skill	Skill Description	Rank by Importance (Out of 100)
Troubleshooting	Determining causes of operating errors and deciding what to do about it.	66
Repairing	Repairing machines or systems using the needed tools.	63
Judgment and Decision Making	Considering the relative costs and benefits of potential actions to choose the most appropriate one.	60
Critical Thinking	Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.	60
Active Listening	Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.	60
Installation	Installing equipment, machines, wiring, or programs to meet specifications.	56
Quality Control Analysis	Conducting tests and inspections of products, services, or processes to evaluate quality or performance.	53
Complex Problem Solving	Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.	53
Equipment Maintenance	Performing routine maintenance on equipment and determining when and what kind of maintenance is needed.	53
<u>Speaking</u>	Talking to others to convey information effectively.	53
<u>Instructing</u>	Teaching others how to do something.	53
Monitoring	Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.	53
Active Learning	Understanding the implications of new information for both current and future problem-solving and decision-making.	53
<u>Learning</u> <u>Strategies</u>	Selecting and using training/instructional methods and procedures appropriate for the situation when learning or teaching new things.	50

Personal Skill	Skill Description	Rank by Importance (Out of 100)
Coordination	Adjusting actions in relation to others' actions.	50
Reading Comprehension	Understanding written sentences and paragraphs in work related documents.	50
<u>Mathematics</u>	Using mathematics to solve problems.	50
Operation and Control	Controlling operations of equipment or systems.	50
Operation Monitoring	Watching gauges, dials, or other indicators to make sure a machine is working properly.	50
<u>Time</u> <u>Management</u>	Managing one's own time and the time of others.	50
<u>Systems</u> <u>Evaluation</u>	Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.	50
<u>Systems</u> <u>Analysis</u>	Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.	50
Equipment Selection	Determining the kind of tools and equipment needed to do a job.	50
Service Orientation	Actively looking for ways to help people.	47
Management of Personnel Resources	Motivating, developing, and directing people as they work, identifying the best people for the job.	47
Writing	Communicating effectively in writing as appropriate for the needs of the audience.	47
Social Perceptiveness	Being aware of others' reactions and understanding why they react as they do.	44
<u>Persuasion</u>	Persuading others to change their minds or behavior.	41
Operations Analysis	Analyzing needs and product requirements to create a design.	41
Management of Material Resources	Obtaining and seeing to the appropriate use of equipment, facilities, and materials needed to do certain work.	31

Personal Skill	Skill Description	Rank by Importance (Out of 100)
Management of Financial Resources	Determining how money will be spent to get the work done, and accounting for these expenditures.	31
Negotiation	Bringing others together and trying to reconcile differences.	31
Science	Using scientific rules and methods to solve problems.	31
<u>Technology</u> <u>Design</u>	Generating or adapting equipment and technology to serve user needs.	25
<u>Programming</u>	Writing computer programs for various purposes.	0

Typical Education Requirements

Electricians Electricians usually require at least a High school diploma or equivalent. However, not all employers may make this a hiring requirement.

Source: This information is based on the BLS Occupational Outlook Handbook (OOH).

Required Level of Education

This section shows the results of a national survey listing the most common required level of education for Electricians.

Rank	Required Level of Education	Percentage of Respondents
1	Post-Secondary Certificate - awarded for training completed after high school (for example, in agriculture or natural resources, computer services, personal or culinary services, engineering technologies, healthcare, construction trades, mechanic and repair technologies, or precision production)	59.48%
2	High School Diploma - or the equivalent (for example, GED)	17.69%
3	Less than a High School Diploma	7.61%
4	Bachelor's Degree	7.61%
5	Some College Courses	4.05%
6	Associate's Degree (or other 2-year degree)	3.54%

On The Job Training

This section shows the results of a national survey listing the most common lengths of on the job training for Electricians.

Rank	On The Job Training	Percentage of Respondents
1	Over 2 years, up to and including 4 years	29.69%
2	Over 4 years, up to and including 10 years	27.11%
3	Over 6 months, up to and including 1 year	12.46%
4	Over 1 year, up to and including 2 years	12.05%
5	Over 1 month, up to and including 3 months	9.55%
6	Anything beyond short demonstration, up to and including 1 month	5.37%
7	Over 3 months, up to and including 6 months	3.53%
8	None or short demonstration	0.23%

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

On-Site or In-Plant Training

This section shows the results of a national survey listing the most common lengths of on-site or inplant training for Electricians.

Rank	On-Site or In-Plant Training	Percentage of Respondents
1	Over 6 months, up to and including 1 year	33.87%
2	Over 4 years, up to and including 10 years	24.57%
3	Over 2 years, up to and including 4 years	20.02%
4	Up to and including 1 month	14.01%
5	Over 1 year, up to and including 2 years	3.79%
6	Over 1 month, up to and including 3 months	1.41%
7	Over 3 months, up to and including 6 months	1.17%
8	None	1.16%

Education Level of Jobs and Candidates

This section shows the minimum level of education requested by employers on job openings advertised online, as well as the educational attainment of potential candidates in the workforce system that are looking for jobs as Electricians in Louisiana on November 22, 2020. There were 91 job openings advertised online that did not specify a minimum education requirement (Jobs Deduplication Level 2).

Rank	Education Level	Job Openings	Percentage of Job Openings	Potential Candidates	Percentage of Potential Candidates
1	No Minimum Education Requirement	<u>3</u>	2.75%	0	N/A
2	Less than High School	0	N/A	70	4.79%
3	High School Diploma or Equivalent	<u>13</u>	11.93%	561	38.37%
4	1 Year of College or a Technical or Vocational School	0	N/A	160	10.94%
5	2 Years of College or a Technical or Vocational School	0	N/A	167	11.42%
6	3 Years of College or a Technical or Vocational School	0	N/A	68	4.65%
7	Vocational School Certificate	<u>1</u>	0.92%	222	15.18%
8	Associate's Degree	<u>1</u>	0.92%	137	9.37%
9	Bachelor's Degree	0	N/A	64	4.38%
10	Master's Degree	0	N/A	5	0.34%
11	Doctorate Degree	0	N/A	4	0.27%
12	Specialized Degree (e.g. MD, DDS)	0	N/A	4	0.27%
13	Not Specified	<u>91</u>	83.49%	0	N/A

Job Source: Online advertised jobs data

Candidate Source: Individuals with active résumés in the workforce system.

Education Training Programs

This section shows the Education Training Programs for Electricians in Louisiana.

Provider Name	Program Name	Location	Tuition	Length	WIOA Eligible
Alexandria Electrical JATC	Alexandria Electrical JATC	Alexandria, LA	\$275	960 Years	
Associated Builders & Contractors - Lake Charles (Pelican)	Accelerated Electrical	WESTLAKE, LA	\$800	20 Weeks	
Associated Builders & Contractors - Lake Charles (Pelican)	NCCER Electrical	WESTLAKE, LA	\$2,200	676 Hours	
Associated Builders and Contractors - B.R. (Pelican)	Electrical An industry-recognized certificate or certification, A measurable skills gain leading to a credential	BATON ROUGE, LA	\$2,200	676 Hours	②
Associated Builders and Contractors - B.R. (Pelican)	<u>ELECTRICAL - FAST</u> <u>TRACK - NCCER</u>	BATON ROUGE, LA	\$1,664	402 Hours	
Baton Rouge Community College	NCCER Electrical Level 1 An industry-recognized certificate or certification, Employment, A measurable skills gain leading to a credential, A measurable skills gain leading to employment	New Roads, LA	\$700	180 Hours	⊘

Provider Name	Program Name	Location	Tuition	Length	WIOA Eligible
Baton Rouge Community College	NCCER Electrical Level 2 An industry-recognized certificate or certification, Employment, A measurable skills gain leading to a credential, A measurable skills gain leading to employment	New Roads, LA	\$700	150 Hours	⊘
Baton Rouge Community College	NCCER Electrical Level 3 An industry-recognized certificate or certification, Employment, A measurable skills gain leading to a credential, A measurable skills gain leading to employment	New Roads, LA	\$700	150 Hours	⊙
Baton Rouge Community College	NCCER Electrical Level 4 An industry-recognized certificate or certification	Baton Rouge, LA	\$700	150 Hours	O
Baton Rouge Community College	NCCER Electrical Level 4 An industry-recognized certificate or certification	New Roads, LA	\$700	150 Hours	•

Source: U.S. Department of Commerce, Bureau of the Census, Midyear Estimates

Advertised Job Certifications

This section shows the top advertised certification groups found in job openings advertised online for Electricians in Louisiana in October, 2020. (Jobs De-duplication Level 1)

Rank	Advertised Certification Group	Advertised Certification Sub- Category	Job Opening Match Count
1	National Registry of Emergency Medical Technicians (NREMT)	Fire Rescue	7

Ran	k Advertised Certification Group	Advertised Certification Sub- Category	Job Opening Match Count
2	American Heart Association (AHA) CPR & First Aid Certifications	Nursing	<u>2</u>
3	Academy of Life Underwriting (ALU) Certifications	Insurance Services	1

Source: Online advertised jobs data

Training Program Completers

There is no data available for Electricians in Louisiana.

National Education, Training, Licensing and Qualifications

Electricians Education

A high school diploma or equivalent is required to become an electrician.

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.

Training

Most electricians learn their trade in a 4- or 5-year apprenticeship program. For each year of the program, apprentices typically receive 2,000 hours of paid on-the-job training as well as some classroom instruction.

In the classroom, apprentices learn electrical theory, blueprint reading, mathematics, electrical code requirements, and safety and first-aid practices. They may also receive specialized training related to soldering, communications, fire alarm systems, and elevators.

Several groups, including unions and contractor associations, sponsor apprenticeship programs. Apprenticeship requirements vary by state and locality.

Some electrical contractors have their own training programs, which are not recognized apprenticeship programs but include both classroom and on-the-job training. Although most workers enter apprenticeships directly, some electricians enter apprenticeship programs after working as a helper. The Home Builders Institute offers a preapprenticeship certificate training (PACT) program for eight construction trades, including electricians.

After completing an apprenticeship program, electricians are considered to be journey workers and may perform duties on their own, subject to any local or state licensing requirements.

Licenses, Certifications, and Registrations

Most states require electricians to pass a test and be licensed. Requirements vary by state. For more information, contact your local or state electrical licensing board. Many of the requirements can be found on the National Electrical Contractors Association's website.

The tests have questions related to the National Electrical Code and state and local electrical codes, all of which set standards for the safe installation of electrical wiring and equipment.

Electricians may be required to take continuing education courses in order to maintain their licenses. These courses are usually related to safety practices, changes to the electrical code, and training from manufacturers in specific products.

Important Qualities

Color vision. Electricians must identify electrical wires by color.

Communication skills. Electricians work with people on a regular basis. They should be friendly and be able to address customers' questions.

Critical-thinking skills. Electricians perform tests and use the results to diagnose problems. For example, when an outlet is not working, they may use a multimeter to check the voltage, amperage, or resistance in order to determine the best course of action.

Physical stamina. Electricians often need to move around all day while running wire and connecting fixtures to the wire.

Physical strength. Electricians need to be strong enough to move heavy components, which may weigh up to 50 pounds.

Troubleshooting skills. Electricians find, diagnose, and repair problems. For example, if a motor stops working, they perform tests to determine the cause of its failure and then, depending on the results, fix or replace the motor.

Source: <u>U.S. Department of Labor Bureau of Labor Statistics</u>

Typical Work Experience Requirements

Electricians Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers. A recognized apprenticeship program may be associated with these occupations.

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Related Work Experience

This section shows the results of a national survey listing the most common related work experience for Electricians.

Rank	Related Work Experience	Percentage of Respondents
1	Over 4 years, up to and including 6 years	61.11%
2	Over 2 years, up to and including 4 years	14.05%
3	Over 8 years, up to and including 10 years	10.08%
4	None	9.91%
5	Over 6 years, up to and including 8 years	4.02%
6	Over 1 year, up to and including 2 years	0.59%
7	Over 6 months, up to and including 1 year	0.23%

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Work Experience of Jobs and Candidates

This section shows the minimum required work experience requested by employers on job openings advertised online, as well as the experience level of potential candidates in the workforce system that are looking for jobs as Electricians in Louisiana on November 22, 2020. There were 95 job openings advertised online that did not specify a minimum experience requirement (Jobs De-duplication Level 2).

Rank	Experience	Job Openings	Percentage of Job Openings	Potential Candidates	Percentage of Potential Candidates
1	Not Specified	95	87.16%	0	N/A
2	Entry Level	3	2.75%	0	N/A
3	Less than 1 year	1	0.92%	58	3.97%
4	1 Year to 2 Years	4	3.67%	46	3.15%
5	2 Years to 5 Years	5	4.59%	108	7.39%
6	5 Years to 10 Years	1	0.92%	176	12.04%
7	More than 10 Years	0	N/A	1,074	73.46%

Job Source: Online advertised jobs data Candidate Source: Individuals with active résumés in the workforce system.

Current Job Order Wage Information

The employer has NOT indicated a salary range for this job. The information below shows statistics on typical salaries in the local labor market for Electricians. This data is NOT an indication of what this employer is willing to pay for this job.

Employment Wage Statistics

This section shows the estimated employment wage statistics for individuals in Louisiana employed for Electricians in 2019.

Rate Type / Statistical Type	Entry level	Median	Experienced
Annual wage or salary	\$34,281	\$50,806	\$73,936
Hourly wage	\$16.48	\$24.43	\$35.55

Source: Labor Market Statistics, Occupational Employment Statistics Program

The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Entry level and Experienced wage rates represent the means of the lower 1/3 and upper 2/3 of the wage distribution, respectively. Data is from an annual survey.

Wage Rates on Advertised Jobs

This section shows a statistical breakdown of available wage data on the <u>109</u> job openings advertised online for Electricians in Louisiana that posted a salary on November 22, 2020.

Rate Type / Statistical Type	Entry Level	Median	Experienced
Annual wage or salary	\$37,039	\$40,458	\$46,605
Hourly Wage	\$17.81	\$19.45	\$22.41

Source: Online advertised jobs data

Note: This information is based on actual job orders and is not based on a statistically valid labor market survey. Hourly wage rate calculations in this section assume a 40 hour work week.

Desired Salary of Available Candidates

This section shows the desired salary of potential candidates in the workforce system that are looking for jobs as Electricians in Louisiana on November 22, 2020.

Rank	Desired Salary	Potential Candidates	Percentage of Potential Candidates

Rank	Desired Salary	Potential Candidates	Percentage of Potential Candidates
1	Not Specified	331	22.29%
2	\$5,000 - \$19,999	7	0.47%
3	\$20,000 - \$34,999	194	13.06%
4	\$35,000 - \$49,999	389	26.20%
5	\$50,000 - \$64,999	385	25.93%
6	\$65,000 - \$79,999	146	9.83%
7	\$80,000 - \$94,999	23	1.55%
8	\$95,000 or more	10	0.67%

Source: Individuals with active résumés in the workforce system.

Wage Rates Area Distribution

There is no data available for Electricians in Louisiana.

Wage Rates in Related Occupations

This section shows a comparison of 2019 median annual rates for occupations that are in the same occupational family as Electricians for Louisiana.

Rank	Occupation	Median	*Related By
1	Pilots, Ship	\$96,513	O*NET
2	Commercial Pilots >	\$81,173	O*NET
3	Ship Engineers	\$75,879	O*NET
4	Chemical Plant and System Operators •	\$69,220	O*NET
5	Robotics Technicians •	\$65,257	O*NET
6	<u>Telecommunications Equipment Installers and</u> <u>Repairers, Except Line Installers</u>	\$65,186	O*NET
7	Reinforcing Iron and Rebar Workers	\$64,066	SOC4
8	Aircraft Mechanics and Service Technicians	\$63,520	O*NET
9	Electrical and Electronics Repairers, Commercial and Industrial Equipment	\$62,553	O*NET
10	<u>Millwrights</u> ❖ ≠	\$58,468	O*NET

Rank	Occupation	Median	*Related By
11	Industrial Machinery Mechanics •	\$55,230	O*NET
12	Plumbers, Pipefitters, and Steamfitters	\$55,149	SOC4
13	Pipe Fitters and Steamfitters • •	\$55,149	O*NET
14	<u>Plumbers</u> ◆ ≠	\$55,149	O*NET
15	Electricians • •	\$50,806	N/A
16	Mobile Heavy Equipment Mechanics, Except Engines	\$47,800	O*NET
17	Stationary Engineers and Boiler Operators •	\$46,792	O*NET
18	Insulation Workers, Mechanical	\$45,672	SOC4
19	Construction Carpenters • •	\$45,602	O*NET
20	Commercial Divers •	\$43,960	O*NET
21	Heating and Air Conditioning Mechanics and Installers • •	\$43,564	O*NET
22	Refrigeration Mechanics and Installers	\$43,564	O*NET
23	Insulation Workers, Floor, Ceiling, and Wall	\$43,518	SOC4
24	Painters, Construction and Maintenance	\$42,182	SOC4
25	<u>Glaziers</u> •	\$39,516	SOC4
26	Automotive Master Mechanics	\$38,386	O*NET
27	<u>Roofers</u> ♦ ≠	\$37,593	SOC4
28	Plasterers and Stucco Masons	\$35,824	SOC4
29	Maintenance and Repair Workers, General • •	\$35,576	O*NET
30	<u>Pipelayers</u>	\$32,804	SOC4
*	Elevator Installers and Repairers	Confidential	O*NET

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Source: Labor Market Statistics, Occupational Employment Statistics Program
The median wage is the estimated 50th percentile; 50 percent of workers in an occupation earn less than the median wage, and 50 percent earn more than the median wage. Entry level and Experienced wage rates represent the means of the lower 1/3 and upper 2/3 of the wage distribution, respectively. Data is from an annual survey.

*Related By: O*NET™ - The <u>Occupational Information Network</u>. O*NET is a registered trademark of the <u>US Department of Labor/Employment and Training Administration</u>.

^{*} Rank is suppressed for confidential data.

Wage Rates by Industry

There is no data available for Electricians in Louisiana.

National Earnings Data Summary

Electricians The median annual wage for electricians was \$52,720 in May 2016. The median wage is the wage at which half the workers in an occupation earned more than that amount and half earned less. The lowest 10 percent earned less than \$31,800, and the highest 10 percent earned more than \$90,420.

In May 2016, the median annual wages for electricians in the top industries in which they worked were as follows:

Government \$59,050 Manufacturing 57,330 Electrical contractors and other wiring installation contractors 50,890 Employment services 45,830

Apprentices receive less pay than fully trained electricians, but their pay increases as they learn to do more.

Almost all electricians worked full time in 2016. Work schedules may include evenings and weekends, and may vary during times of inclement weather. During scheduled maintenance, or on construction sites, electricians can expect to work overtime.

Self-employed electricians often work in residential construction and may have the ability to set their own schedule.

Union Membership

Compared with workers in all occupations, electricians had a higher percentage of workers who belonged to a union in 2016. Although there is no single union that covers all electricians, the largest organizer of these workers is the International Brotherhood of Electrical Workers.

Source: <u>U.S. Department of Labor Bureau of Labor Statistics</u>

Occupational Employment & Future Employment Outlook

This section shows the long term employment projections for Electricians in Louisiana from 2016-2026.

Occupation	2016 Estimated Employment	2026 Projected Employment	Total 2016- 2026 Employment Change	2016-2026 Annual Avg. Percent Change
Electricians	11,774	12,403	629	0.52%
Total All	2,034,986	2,203,144	168,158	0.80%

Source: Occupational Employment Projections

Employment Data Area Distribution

This section shows the distribution of the estimated employment for Electricians in Louisiana by regional labor market area.

Rank	Area	2016 Estimated Employment
1	<u>2nd Regional Labor</u> <u>Market Area, Baton</u> <u>Rouge</u>	4,023
2	<u>1st Regional Labor</u> <u>Market Area, New</u> <u>Orleans</u>	2,951
3	<u>4th Regional Labor</u> <u>Market Area, Lafayette</u>	1,512
4	7th Regional Labor Market Area, Shreveport	950
5	<u>5th Regional Labor</u> <u>Market Area, Lake</u> <u>Charles</u>	929
6	<u>3rd Regional Labor</u> <u>Market Area, Houma</u>	569
7	8th Regional Labor Market Area, Monroe	465
8	<u>6th Regional Labor</u> <u>Market Area, Alexandria</u>	307

Source: Labor Market Statistics, Occupational Employment Projections Program

Employment Data in Related Occupations

This section shows the 2016 Estimated Employment in Louisiana for occupations related to Electricians.

Rank	Occupation	2016 Estimated Employment	*Related By
1	Maintenance and Repair Workers, General • 🖊	26,983	O*NET
2	Construction Carpenters > P	18,228	O*NET
3	Electricians * •	11,774	SOC4
4	Pipe Fitters and Steamfitters • •	11,194	O*NET
5	<u>Plumbers</u>	11,194	O*NET
6	Plumbers, Pipefitters, and Steamfitters	11,194	SOC4
7	Automotive Master Mechanics	8,887	O*NET
8	Painters, Construction and Maintenance	8,434	SOC4
9	<u>Pilots, Ship</u>	7,378	O*NET
10	Industrial Machinery Mechanics •	7,260	O*NET
11	Chemical Plant and System Operators •	4,553	O*NET
12	Heating and Air Conditioning Mechanics and Installers • •	4,502	O*NET
13	Refrigeration Mechanics and Installers • •	4,502	O*NET
14	<u>Telecommunications Equipment Installers and</u> <u>Repairers, Except Line Installers</u>	4,063	O*NET
15	Insulation Workers, Mechanical	2,884	SOC4
16	Mobile Heavy Equipment Mechanics, Except Engines	2,820	O*NET
17	Aircraft Mechanics and Service Technicians	1,626	O*NET
18	<u>Millwrights</u> ◆ ≠	1,310	O*NET
19	<u>Pipelayers</u>	956	SOC4
20	Electrical and Electronics Repairers, Commercial and Industrial Equipment	913	O*NET
21	Commercial Divers	878	O*NET
22	<u>Roofers</u> ♦ ≠	832	SOC4
23	Insulation Workers, Floor, Ceiling, and Wall	815	SOC4
24	Commercial Pilots >	797	O*NET
25	Reinforcing Iron and Rebar Workers	780	SOC4

Rank	Occupation	2016 Estimated Employment	*Related By
26	<u>Glaziers</u> •	585	SOC4
27	Plasterers and Stucco Masons	134	SOC4
28	Forest and Conservation Technicians	71	O*NET
*	Airline Pilots, Copilots, and Flight Engineers	Confidential	O*NET
*	Elevator Installers and Repairers .	Confidential	O*NET
*	Manufactured Building and Mobile Home Installers	Confidential	O*NET
*	<u>Paperhangers</u>	Confidential	SOC4
*	Robotics Technicians •	Confidential	O*NET
*	Ship Engineers	Confidential	O*NET
*	Stationary Engineers and Boiler Operators •	Confidential	O*NET

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Source: Occupational Employment Projections

Projected Annual Openings

This section shows the long term projected annual openings for Electricians in Louisiana from 2016 to 2026.

Occupation	Total Annual Average Openings	Annual Average Openings Due to Growth	Annual Average Openings Due to Replacement
Electricians	N/A	N/A	N/A
Construction and Extraction	N/A	N/A	N/A

Source: Labor Market Statistics, Occupational Employment Projections Program

Projected Annual Openings Area Distribution

This section shows the distribution of the total annual average openings for Electricians in Louisiana by regional labor market area from 2016 to 2026.

^{*} Rank is suppressed for confidential data.

^{*}Related By: O*NET™ - The <u>Occupational Information Network</u>. O*NET is a registered trademark of the <u>US Department of Labor/Employment and Training Administration</u>.

SOC4 - Occupational grouping based on 1st 4 digits of the <u>Standard Occupational Classification</u> system.

Rank	Area	Total Annual Average Openings
1	1st Regional Labor Market Area, New Orleans	N/A
2	<u>2nd Regional Labor</u> <u>Market Area, Baton Rouge</u>	N/A
3	<u>3rd Regional Labor Market</u> <u>Area, Houma</u>	N/A
4	4th Regional Labor Market Area, Lafayette	N/A
5	<u>5th Regional Labor Market</u> <u>Area, Lake Charles</u>	N/A
6	6th Regional Labor Market Area, Alexandria	N/A
7	7th Regional Labor Market Area, Shreveport	N/A
8	8th Regional Labor Market Area, Monroe	N/A

There is no total annual average openings data available for Electricians in Louisiana.

Source: Labor Market Statistics, Occupational Employment Projections Program

Projected Annual Openings in Related Occupations

This section shows the projected total annual average openings in Louisiana for occupations related to Electricians from 2016 to 2026.

Rank	Occupation	Total Annual Average Openings	*Related By
1	Aircraft Mechanics and Service Technicians	N/A	O*NET
2	Automotive Master Mechanics	N/A	O*NET
3	Chemical Plant and System Operators •	N/A	O*NET
4	Commercial Divers •	N/A	O*NET
5	Commercial Pilots >	N/A	O*NET
6	Construction Carpenters • •	N/A	O*NET

Rank	Occupation	Total Annual Average Openings	*Related By
7	Electrical and Electronics Repairers, Commercial and Industrial Equipment	N/A	O*NET
8	Electricians • 🖊	N/A	SOC4
9	Forest and Conservation Technicians	N/A	O*NET
10	<u>Glaziers</u>	N/A	SOC4
11	Heating and Air Conditioning Mechanics and Installers • •	N/A	O*NET
12	Industrial Machinery Mechanics •	N/A	O*NET
13	Insulation Workers, Floor, Ceiling, and Wall	N/A	SOC4
14	Insulation Workers, Mechanical	N/A	SOC4
15	Maintenance and Repair Workers, General • •	N/A	O*NET
16	<u>Millwrights</u> ❖ ≠	N/A	O*NET
17	Mobile Heavy Equipment Mechanics, Except Engines	N/A	O*NET
18	Painters, Construction and Maintenance	N/A	SOC4
19	Pilots, Ship	N/A	O*NET
20	Pipe Fitters and Steamfitters • •	N/A	O*NET
21	<u>Pipelayers</u> •	N/A	SOC4
22	Plasterers and Stucco Masons	N/A	SOC4
23	<u>Plumbers</u> ◆ ≠	N/A	O*NET
24	Plumbers, Pipefitters, and Steamfitters	N/A	SOC4
25	Refrigeration Mechanics and Installers • •	N/A	O*NET
26	Reinforcing Iron and Rebar Workers	N/A	SOC4
27	<u>Roofers</u> → <i>p</i>	N/A	SOC4
28	<u>Telecommunications Equipment Installers and</u> <u>Repairers, Except Line Installers</u>	N/A	O*NET
*	Airline Pilots, Copilots, and Flight Engineers	Confidential	O*NET
*	Elevator Installers and Repairers	Confidential	O*NET
*	Manufactured Building and Mobile Home Installers	Confidential	O*NET
*	<u>Paperhangers</u>	Confidential	SOC4
*	Robotics Technicians •	Confidential	O*NET

Rank	Occupation	Total Annual Average Openings	*Related By
*	<u>Ship Engineers</u>	Confidential	O*NET
*	Stationary Engineers and Boiler Operators •	Confidential	O*NET

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■ GREEN OCCUPATIONS

Source: Occupational Employment Projections

Industries by Employment

This section shows the industries that employed the highest number of Electricians in Louisiana in 2016.

Rank	Industry Title	Estimated Employment	Percent of Total Employment
1	Specialty Trade Contractors	6,887	58.49%
2	<u>Self-Employed and Unpaid Family Workers, Primary</u> <u>Job</u>	957	8.13%
3	Construction of Buildings	462	3.92%
4	Transportation Equipment Manufacturing	309	2.62%
5	Support Activities for Mining	279	2.37%
6	<u>Utilities</u>	269	2.28%
7	Repair and Maintenance	257	2.18%
8	Educational Services	244	2.07%
9	Management of Companies and Enterprises	215	1.83%
10	Petroleum and Coal Products Manufacturing	176	1.49%

Source: Louisiana Workforce Commission, Occupational Projections Program

Work Activities

This section shows the most common work activities required by Electricians in order of importance. Click on a link in the Work Activity column to view more detailed information.

Work Activity	Work Activity Description	Rank by Importance (Out of 100)

^{*} Rank is suppressed for confidential data.

Work Activity	Work Activity Description	Rank by Importance (Out of 100)
Identifying Objects, Actions, and Events	Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.	78
Getting Information	Observing, receiving, and otherwise obtaining information from all relevant sources.	78
Making Decisions and Solving Problems	Analyzing information and evaluating results to choose the best solution and solve problems.	75
Inspecting Equipment, Structures, or Material	Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.	74
Handling and Moving Objects	Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things.	74
Monitor Processes, Materials, or Surroundings	Monitoring and reviewing information from materials, events, or the environment, to detect or assess problems.	73
<u>Updating and Using</u> <u>Relevant Knowledge</u>	Keeping up-to-date technically and applying new knowledge to your job.	72
Organizing, Planning, and Prioritizing Work	Developing specific goals and plans to prioritize, organize, and accomplish your work.	71
Evaluating Information to Determine Compliance with Standards	Using relevant information and individual judgment to determine whether events or processes comply with laws, regulations, or standards.	68
Performing General Physical Activities	Performing physical activities that require considerable use of your arms and legs and moving your whole body, such as climbing, lifting, balancing, walking, stooping, and handling of materials.	68
Communicating with Supervisors, Peers, or Subordinates	Providing information to supervisors, co- workers, and subordinates by telephone, in written form, e-mail, or in person.	66

Work Activity	Work Activity Description	Rank by Importance (Out of 100)
<u>Training and Teaching</u> <u>Others</u>	Identifying the educational needs of others, developing formal educational or training programs or classes, and teaching or instructing others.	65
Operating Vehicles, Mechanized Devices, or Equipment	Running, maneuvering, navigating, or driving vehicles or mechanized equipment, such as forklifts, passenger vehicles, aircraft, or water craft.	63
Coordinating the Work and Activities of Others	Getting members of a group to work together to accomplish tasks.	60
Judging the Qualities of Things, Services, or People	Assessing the value, importance, or quality of things or people.	60
Processing Information	Compiling, coding, categorizing, calculating, tabulating, auditing, or verifying information or data.	59
Estimating the Quantifiable Characteristics of Products, Events, or Information	Estimating sizes, distances, and quantities; or determining time, costs, resources, or materials needed to perform a work activity.	59
Scheduling Work and Activities	Scheduling events, programs, and activities, as well as the work of others.	58
Repairing and Maintaining Electronic Equipment	Servicing, repairing, calibrating, regulating, fine-tuning, or testing machines, devices, and equipment that operate primarily on the basis of electrical or electronic (not mechanical) principles.	57
Thinking Creatively	Developing, designing, or creating new applications, ideas, relationships, systems, or products, including artistic contributions.	57
Repairing and Maintaining Mechanical Equipment	Servicing, repairing, adjusting, and testing machines, devices, moving parts, and equipment that operate primarily on the basis of mechanical (not electronic) principles.	56

Work Activity	Work Activity Description	Rank by Importance (Out of 100)
Performing for or Working Directly with the Public	Performing for people or dealing directly with the public. This includes serving customers in restaurants and stores, and receiving clients or guests.	56
Controlling Machines and Processes	Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles).	55
Guiding, Directing, and Motivating Subordinates	Providing guidance and direction to subordinates, including setting performance standards and monitoring performance.	54
<u>Drafting, Laying Out,</u> <u>and Specifying Technical</u> <u>Devices, Parts, and</u> <u>Equipment</u>	Providing documentation, detailed instructions, drawings, or specifications to tell others about how devices, parts, equipment, or structures are to be fabricated, constructed, assembled, modified, maintained, or used.	53
Documenting/Recording Information	Entering, transcribing, recording, storing, or maintaining information in written or electronic/magnetic form.	51
<u>Developing Objectives</u> <u>and Strategies</u>	Establishing long-range objectives and specifying the strategies and actions to achieve them.	50
Interpreting the Meaning of Information for Others	Translating or explaining what information means and how it can be used.	50
Analyzing Data or Information	Identifying the underlying principles, reasons, or facts of information by breaking down information or data into separate parts.	47
<u>Developing and Building</u> <u>Teams</u>	Encouraging and building mutual trust, respect, and cooperation among team members.	46
Establishing and Maintaining Interpersonal Relationships	Developing constructive and cooperative working relationships with others, and maintaining them over time.	45

Work Activity	Work Activity Description	Rank by Importance (Out of 100)
Coaching and Developing Others	Identifying the developmental needs of others and coaching, mentoring, or otherwise helping others to improve their knowledge or skills.	45
Resolving Conflicts and Negotiating with Others	Handling complaints, settling disputes, and resolving grievances and conflicts, or otherwise negotiating with others.	44
Monitoring and Controlling Resources	Monitoring and controlling resources and overseeing the spending of money.	43
Communicating with Persons Outside Organization	Communicating with people outside the organization, representing the organization to customers, the public, government, and other external sources. This information can be exchanged in person, in writing, or by telephone or email.	41
Assisting and Caring for Others	Providing personal assistance, medical attention, emotional support, or other personal care to others such as coworkers, customers, or patients.	39
Interacting With Computers	Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.	37
Provide Consultation and Advice to Others	Providing guidance and expert advice to management or other groups on technical, systems-, or process-related topics.	36
Staffing Organizational Units	Recruiting, interviewing, selecting, hiring, and promoting employees in an organization.	31
Performing Administrative Activities	Performing day-to-day administrative tasks such as maintaining information files and processing paperwork.	30
Selling or Influencing Others	Convincing others to buy merchandise/goods or to otherwise change their minds or actions.	28

Tasks

This section shows the most common tasks required by Electricians in order of importance. Click on a link in the Task column to view more detailed information.

Tasks	Task Description	Rank by Importance (Out of 100)
Plan layout and installation of electrical wiring, equipment, or fixtures, based on job specifications and local codes.	Core	89
Connect wires to circuit breakers, transformers, or other components.	Core	87
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.	Core	86
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.	Core	85
Inspect electrical systems, equipment, or components to identify hazards, defects, or the need for adjustment or repair, and to ensure compliance with codes.	Core	85
Prepare sketches or follow blueprints to determine the location of wiring or equipment and to ensure conformance to building and safety codes.	Core	83
Diagnose malfunctioning systems, apparatus, or components, using test equipment and hand tools to locate the cause of a breakdown and correct the problem.	Core	83
Work from ladders, scaffolds, or roofs to install, maintain, or repair electrical wiring, equipment, or fixtures.	Core	81
Advise management on whether continued operation of equipment could be hazardous.	Core	80
Maintain current electrician's license or identification card to meet governmental regulations.	Core	80

Tasks	Task Description	Rank by Importance (Out of 100)
Place conduit, pipes, or tubing, inside designated partitions, walls, or other concealed areas, and pull insulated wires or cables through the conduit to complete circuits between boxes.	Core	80
Direct or train workers to install, maintain, or repair electrical wiring, equipment, or fixtures.	Core	78
Repair or replace wiring, equipment, or fixtures, using hand tools or power tools.	Core	78
Install ground leads and connect power cables to equipment, such as motors.	Core	77
Assemble, install, test, or maintain electrical or electronic wiring, equipment, appliances, apparatus, or fixtures, using hand tools or power tools.	Core	76
Perform business management duties, such as maintaining records or files, preparing reports, or ordering supplies or equipment.	Core	68
Fasten small metal or plastic boxes to walls to house electrical switches or outlets.	Core	66
Construct or fabricate parts, using hand tools, according to specifications.	Core	65
Perform physically demanding tasks, such as digging trenches to lay conduit or moving or lifting heavy objects.	Core	58
Provide assistance during emergencies by operating floodlights or generators, placing flares, or driving needed vehicles.	Supplemental	70
<u>Provide preliminary sketches or cost estimates for materials or services.</u>	Supplemental	68

National Working Conditions

Electricians Electricians wear a variety of safety equipment to reduce their risk of injury.

Electricians held about 666,900 jobs in 2016. The largest employers of electricians were as follows:

Electrical contractors and other wiring installation contractors 65%

Self-employed workers 8 Manufacturing 8 Government 4 Employment services 2

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. Those who work in factories are often subject to noisy machinery. As a result, hearing protection must be worn to protect workers from excess noise.

Many electricians work alone, but sometimes they collaborate with others. At larger companies, electricians are more likely to work as part of a crew, directing helpers and apprentices to complete jobs.

Injuries and Illnesses

Electricians have a higher rate of injuries and illnesses than the national average. Although a few accidents are potentially fatal, common injuries include electrical shocks, falls, burns, and other minor injuries. Workers must therefore wear protective clothing and safety glasses to reduce these risks.

Work Schedules

Almost all electricians worked full time in 2016. Work schedules may include evenings and weekends, and may vary during times of inclement weather. During scheduled maintenance, or on construction sites, electricians can expect to work overtime.

Self-employed electricians often work in residential construction and may have the ability to set their own schedule.

Source: <u>U.S. Department of Labor Bureau of Labor Statistics</u>

Typical Work Conditions

This section shows the most common work conditions required by Electricians in order of importance.

Work Condition Work Condition Description Rank by Importance (Out of 100)

Work Condition	Work Condition Description	Rank by Importance (Out of 100)
Wear Common Protective or Safety Equipment such as Safety Shoes, Glasses, Gloves, Hearing Protection, Hard Hats, or Life Jackets	How much does this job require wearing common protective or safety equipment such as safety shoes, glasses, gloves, hard hats or life jackets?	95
Spend Time Standing	How much does this job require standing?	92
Face-to-Face Discussions	How often do you have to have face- to-face discussions with individuals or teams in this job?	91
Contact With Others	How much does this job require the worker to be in contact with others (face-to-face, by telephone, or otherwise) in order to perform it?	90
Sounds, Noise Levels Are Distracting or Uncomfortable	How often does this job require working exposed to sounds and noise levels that are distracting or uncomfortable?	89
Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls	How much does this job require using your hands to handle, control, or feel objects, tools or controls?	88
Responsible for Others' Health and Safety	How much responsibility is there for the health and safety of others in this job?	83
Importance of Being Exact or Accurate	How important is being very exact or highly accurate in performing this job?	83
Freedom to Make Decisions	How much decision making freedom, without supervision, does the job offer?	82
Telephone	How often do you have telephone conversations in this job?	81
Exposed to Hazardous Conditions	How often does this job require exposure to hazardous conditions?	81
Time Pressure	How often does this job require the worker to meet strict deadlines?	79

Work Condition	Work Condition Description	Rank by Importance (Out of 100)
Indoors, Not Environmentally Controlled	How often does this job require working indoors in non-controlled environmental conditions (e.g., warehouse without heat)?	78
Exposed to Hazardous Equipment	How often does this job require exposure to hazardous equipment?	77
Work With Work Group or Team	How important is it to work with others in a group or team in this job?	76
Structured versus Unstructured Work	To what extent is this job structured for the worker, rather than allowing the worker to determine tasks, priorities, and goals?	76
Physical Proximity	To what extent does this job require the worker to perform job tasks in close physical proximity to other people?	75
Frequency of Decision Making	How frequently is the worker required to make decisions that affect other people, the financial resources, and/or the image and reputation of the organization?	75
Impact of Decisions on Co- workers or Company Results	What results do your decisions usually have on other people or the image or reputation or financial resources of your employer?	74
Responsibility for Outcomes and Results	How responsible is the worker for work outcomes and results of other workers?	73
Exposed to High Places	How often does this job require exposure to high places?	72
Consequence of Error	How serious would the result usually be if the worker made a mistake that was not readily correctable?	71
Very Hot or Cold Temperatures	How often does this job require working in very hot (above 90 F degrees) or very cold (below 32 F degrees) temperatures?	70

Work Condition	Work Condition Description	Rank by Importance (Out of 100)
Spend Time Bending or Twisting the Body	How much does this job require bending or twisting your body?	70
Coordinate or Lead Others	How important is it to coordinate or lead others in accomplishing work activities in this job?	67
Cramped Work Space, Awkward Positions	How often does this job require working in cramped work spaces that requires getting into awkward positions?	67
Extremely Bright or Inadequate Lighting	How often does this job require working in extremely bright or inadequate lighting conditions?	66
Exposed to Contaminants	How often does this job require working exposed to contaminants (such as pollutants, gases, dust or odors)?	64
Spend Time Making Repetitive Motions	How much does this job require making repetitive motions?	64
Spend Time Climbing Ladders, Scaffolds, or Poles	How much does this job require climbing ladders, scaffolds, or poles?	63
Outdoors, Exposed to Weather	How often does this job require working outdoors, exposed to all weather conditions?	63
Exposed to Minor Burns, Cuts, Bites, or Stings	How often does this job require exposure to minor burns, cuts, bites, or stings?	63
Spend Time Walking and Running	How much does this job require walking and running?	60
Electronic Mail	How often do you use electronic mail in this job?	58
Indoors, Environmentally Controlled	How often does this job require working indoors in environmentally controlled conditions?	53
Outdoors, Under Cover	How often does this job require working outdoors, under cover (e.g., structure with roof but no walls)?	53

Work Condition	Work Condition Description	Rank by Importance (Out of 100)
In an Enclosed Vehicle or Equipment	How often does this job require working in a closed vehicle or equipment (e.g., car)?	53
Importance of Repeating Same Tasks	How important is repeating the same physical activities (e.g., key entry) or mental activities (e.g., checking entries in a ledger) over and over, without stopping, to performing this job?	53
Wear Specialized Protective or Safety Equipment such as Breathing Apparatus, Safety Harness, Full Protection Suits, or Radiation Protection	How much does this job require wearing specialized protective or safety equipment such as breathing apparatus, safety harness, full protection suits, or radiation protection?	53
Level of Competition	To what extent does this job require the worker to compete or to be aware of competitive pressures?	52
Deal With External Customers	How important is it to work with external customers or the public in this job?	51
Spend Time Kneeling, Crouching, Stooping, or Crawling	How much does this job require kneeling, crouching, stooping or crawling?	50
Frequency of Conflict Situations	How often are there conflict situations the employee has to face in this job?	45
Letters and Memos	How often does the job require written letters and memos?	41
Deal With Unpleasant or Angry People	How frequently does the worker have to deal with unpleasant, angry, or discourteous individuals as part of the job requirements?	39
Spend Time Keeping or Regaining Balance	How much does this job require keeping or regaining your balance?	37
Exposed to Whole Body Vibration	How often does this job require exposure to whole body vibration (e.g., operate a jackhammer)?	33

Work Condition	Work Condition Description	Rank by Importance (Out of 100)
In an Open Vehicle or Equipment	How often does this job require working in an open vehicle or equipment (e.g., tractor)?	29
Pace Determined by Speed of Equipment	How important is it to this job that the pace is determined by the speed of equipment or machinery? (This does not refer to keeping busy at all times on this job.)	25
Degree of Automation	How automated is the job?	21
Public Speaking	How often do you have to perform public speaking in this job?	20

Work Values and Needs

This section shows the information on the current work values for your selected occupation.

Work Value	Work Value Description	Rank By Extent (Out of 100)
Independence	Occupations that satisfy this work value allow employees to work on their own and make decisions. Corresponding needs are Creativity, Responsibility and Autonomy.	72
Support	Occupations that satisfy this work value offer supportive management that stands behind employees. Corresponding needs are Company Policies, Supervision: Human Relations and Supervision: Technical.	67
Achievement	Occupations that satisfy this work value are results oriented and allow employees to use their strongest abilities, giving them a feeling of accomplishment. Corresponding needs are Ability Utilization and Achievement.	56
Working Conditions	Occupations that satisfy this work value offer job security and good working conditions. Corresponding needs are Activity, Compensation, Independence, Security, Variety and Working Conditions.	53

Work Value	Work Value Description	Rank By Extent (Out of 100)
Relationships	Occupations that satisfy this work value allow employees to provide service to others and work with co-workers in a friendly non-competitive environment. Corresponding needs are Co-workers, Moral Values and Social Service.	45
Recognition	Occupations that satisfy this work value offer advancement, potential for leadership, and are often considered prestigious. Corresponding needs are Advancement, Authority, Recognition and Social Status.	39

Typical Tools

This section shows common tools used by Electricians.

Detailed Tool	Tool Group
Pump pliers	Adjustable widemouth pliers
Adjustable wrenches	Adjustable wrenches
Air compressors	Air compressors
Ammeters	Ammeters
Clamp-on ammeters	Ammeters
Bucket trucks	Articulating boom lift
Awls	Awls
Backhoes	Backhoes
Cable tie guns	Banders
Bandsaws	Bandsaw wheel
Cutting torches	Blow torch
Insulated bolt cutters	Bolt cutters
Bear claw wire threaders	Cable accessories
Cable lacing needles	Cable accessories
Single reel cable trailers	Cable reels
Wheeled wire dispensers	Cable reels

Detailed Tool Tool Group

Wire dispensers Cable reels

Wire dollies Cable reels

Wire hand caddies Cable reels

Cable splicing knives Cable splicing kits

Inductance testers Calibrated inductance coils or boxes

Resistance bridges Calibrated resistance measuring equipment

Capacitance testers Capacitance meters

Circuit testers Circuit tester

Continuity coaxial testers Circuit tester

Growlers Circuit tester

Circuit tracers Circuit tracers

Claw hammer Claw hammer

Cable benders Conduit benders

Conduit benders Conduit benders

Electric conduit benders Conduit benders

Hydraulic conduit benders Conduit benders

Truck cranes Conventional truck cranes

Conduit deburring tools Deburring tool

Depth gauges Depth gauges

Desktop computers Desktop computers

Diagonal cutting pliers Diagonal cut pliers

High-leverage diagonal cutting pliers Diagonal cut pliers

Drill bit sets Drill bit set

Frequency meters Electrical frequency meters

End cutting pliers End cut pliers

High-leverage side cutting pliers End cut pliers

Side cutting pliers End cut pliers

Feeler gauges Feeler gauges

Fish tape pullers Fish tape

Wire loop pullers Fish tape

Fuse pulling equipment Fuse pullers

Detailed Tool	Tool Group
Gas leak detection devices	Gas detectors
Generators	Gas generators
Ground fault circuit interrupter GFCI testers	GFI circuit testers
Hacksaws	Hacksaw
Hammers	Hammers
Tapered reamers	Hand reamer
Hard hats	Hard hats
Heat guns	Heat guns
Allen wrenches	Hex keys
Hex key sets	Hex keys
Hole saws	Hole saws
Hydraulic presses	Hydraulic press frames
Transfer impedance meters	Impedance meters
Inspection mirrors	Inspection mirror
Insulated screwdrivers	Insulated screwdriver
Cable labeling machines	Label making machines
Ladders	Ladders
Laser printers	Laser printers
Conduit levels	Levels
Torpedo levels	Levels
Insulated pliers	Linemans pliers
Lineman's pliers	Linemans pliers
Channel lock pliers	Locking pliers
Conduit locknut and reaming pliers	Locking pliers

Channel lock pliers

Conduit locknut and reaming pliers

Heavy duty longnose pliers

Lighted magnet pickups

Telescoping lighted pickups

Locking pliers

Locking pliers

Locking pliers

Magnetic tools

Manlifts Manlift or personnel lift

MegohmmetersMegohmmetersMagnetic locatorsMetal detectors

Metal locators Metal detectors

Detailed Tool Tool Group

Programmable logic controllers PLC Microcontrollers

Micrometers Micrometers

Multimeters Multimeters

Needlenose pliers Needlenose pliers

Nibbler cutting tools Nibblers

Notebook computers Notebook computers

Insulated nutdrivers Nut drivers

Nut drivers Nut drivers

Double-end can socket wrenches Offset socket wrenches

Ohmmeters Ohmmeters

Crescent wrenches Open end wrenches

Oscilloscopes Oscilloscopes

Personal computers Personal computers

Phase rotation meters Phasemeters

Polyvinyl chloride PVC cutters Pipe or tube cutter

Ratcheting pipe wrenches Pipe wrenches

Laser plumb bobs Plumb bobs

Cordless drills Power drills

Hammer drills Power drills

Circular saws Power saws

Cable gripping gloves Protective gloves

Punchdown tools Punches or nail sets or drifts

Razor knives Razor knives

Respirators Respirators

External snap ring pliers Retaining ring pliers

Internal snap ring pliers Retaining ring pliers

Safety glasses Safety glasses

Scaffolding Scaffolding

Cabinet tip screwdrivers Screwdrivers

Conduit fitting and reaming screwdrivers Screwdrivers

Phillips head screwdrivers Screwdrivers

Detailed Tool Tool Group

Round shank screwdrivers Screwdrivers

Screw-holding screwdrivers Screwdrivers

Square shank screwdrivers Screwdrivers

Shears Shears

Insulated socket sets Socket sets

Butane soldering iron Soldering iron

Soldering tools Soldering iron

Insulated wrenches Specialty wrenches

Welders Spot welding machine

Hydraulic punching tools Stamping dies or punches

Staple guns Staple guns

Strap wrenches Strap wrenches

Automatic insulation strippers Stripping tools

Cable jacket strippers Stripping tools

Cable sheath strippers Stripping tools

Channel lock crimping tools Stripping tools

End wire strippers Stripping tools

Self-adjusting insulation strippers Stripping tools

Universal stripping tools Stripping tools

Wire strippers Stripping tools

Tablet computers Tablet computers

Conduit measuring tapes Tape measures

Tape measures Tape measures

Tapping tools Tapping machine attachment

Tension gauges Tensiometers

Infrared scanners Thermographs

Threading dies Threading dies

Tap sets Threading taps

Tin snips Tinners snips

Tongue and groove pliers Tongue and groove pliers

Diggers Track excavators

Detailed Tool Tool Group Two way radios Two way radios **Utility** knives Utility knives Current clamps Voltage or current meters Milliameters Voltage or current meters Non-contact voltage detectors Voltage or current meters Test lamps Voltage or current meters Volt tick meters Voltage or current meters Voltmeters Voltage or current meters Wattmeters Wattmeters Welding hoods Welding masks Winches Winches Electricians' scissors Wire cutters Wire cutters Wire cutters Ratchet crimper kits Wire lug crimping tool Terminal crimpers Wire lug crimping tool Wire crimpers Wire lug crimping tool Wire crimping tools Wire lug crimping tool Cable butt trimmers Wire or cable cutter Wire or cable cutter Cable cutters Coaxial cable cutters Wire or cable cutter High-leverage cable cutters Wire or cable cutter Wire or cable cutter Insulated cable cutters Utility cable cutters Wire or cable cutter Wire wrapping tool Wire wrap guns

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Typical Technology

This section shows common technology used by Electricians.

Detailed Technology	Technology Group

Detailed Technology	Technology Group
Turtle Creek Software Goldenseal	Accounting software
Construction Master Pro	Analytical or scientific software
Electrosoft FlashWorks	Analytical or scientific software
Elite Software E-Coord	Analytical or scientific software
Elite Software Inpoint	Analytical or scientific software
Elite Software Outpoint	Analytical or scientific software
Elite Software Short	Analytical or scientific software
Elite Software VDROP	Analytical or scientific software
Lighting calculation software	Analytical or scientific software
SoftEmpire Electrical Calculations	Analytical or scientific software
Autodesk AutoCAD	Computer aided design CAD software
Computer aided design CAD software	Computer aided design CAD software
One Mile Up Panel Planner	Computer aided design CAD software
SmartDraw	Computer aided design CAD software
Database software	Data base user interface and query software
Insight Direct ServiceCEO	Data base user interface and query software
Resolve Systems Service Management	Data base user interface and query software
Sage 300 Construction and Real Estate	Data base user interface and query software
Shafer Service Systems	Data base user interface and query software
Adobe Acrobat	Document management software
Microsoft Outlook	Electronic mail software
SAP	Enterprise resource planning ERP software
Supervisory control and data acquisition SCADA software	Industrial control software
Wonderware InTouch	Industrial control software
Microsoft Office	Office suite software
Microsoft Windows	Operating system software

Detailed Technology	Technology Group
Craftsman CD Estimator	Project management software
Microsoft Excel	Spreadsheet software
Spreadsheet software	Spreadsheet software
Microsoft Word	Word processing software
Socrates Contractor's Library	Word processing software
Word processing software	Word processing software

Licensing Information

There is no data available for Electricians in Louisiana.

Typical Knowledge Categories

This section shows the most common knowledge categories required by Electricians in order of importance. Click on a link in the Knowledge Category column to view more detailed information.

Knowledge Category	Knowledge Category Description	Rank by Importance (Out of 100)
Building and Construction	Knowledge of materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures such as highways and roads.	83
<u>Mechanical</u>	Knowledge of machines and tools, including their designs, uses, repair, and maintenance.	82
<u>Mathematics</u>	Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.	73
<u>Design</u>	Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.	69
<u>English Language</u>	Knowledge of the structure and content of the English language including the meaning and spelling of words, rules of composition, and grammar.	69

Knowledge Category	Knowledge Category Description	Rank by Importance (Out of 100)
Public Safety and Security	Knowledge of relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.	63
Customer and Personal Service	Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.	60
Administration and Management	Knowledge of business and management principles involved in strategic planning, resource allocation, human resources modeling, leadership technique, production methods, and coordination of people and resources.	58
<u>Physics</u>	Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and sub- atomic structures and processes.	54
<u>Telecommunications</u>	Knowledge of transmission, broadcasting, switching, control, and operation of telecommunications systems.	50
Engineering and Technology	Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.	48
Computers and Electronics	Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.	40

Knowledge Category	Knowledge Category Description	Rank by Importance (Out of 100)
Clerical	Knowledge of administrative and clerical procedures and systems such as word processing, managing files and records, stenography and transcription, designing forms, and other office procedures and terminology.	38
<u>Law and</u> <u>Government</u>	Knowledge of laws, legal codes, court procedures, precedents, government regulations, executive orders, agency rules, and the democratic political process.	34
Personnel and Human Resources	Knowledge of principles and procedures for personnel recruitment, selection, training, compensation and benefits, labor relations and negotiation, and personnel information systems.	34
Production and Processing	Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.	33
<u>Psychology</u>	Knowledge of human behavior and performance; individual differences in ability, personality, and interests; learning and motivation; psychological research methods; and the assessment and treatment of behavioral and affective disorders.	25
Communications and Media	Knowledge of media production, communication, and dissemination techniques and methods. This includes alternative ways to inform and entertain via written, oral, and visual media.	23
Sales and Marketing	Knowledge of principles and methods for showing, promoting, and selling products or services. This includes marketing strategy and tactics, product demonstration, sales techniques, and sales control systems.	20

Typical Work Abilities Required

This section shows the results of a national survey listing the most common work abilities required by Electricians in order of importance. Click on a link in the Work Ability column to view more detailed information.

Work Ability	Work Ability Description	Rank by Importance (Out of 100)
Problem Sensitivity	The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing there is a problem.	75
<u>Deductive</u> <u>Reasoning</u>	The ability to apply general rules to specific problems to produce answers that make sense.	69
Inductive Reasoning	The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).	69
Near Vision	The ability to see details at close range (within a few feet of the observer).	69
Oral Comprehension	The ability to listen to and understand information and ideas presented through spoken words and sentences.	66
Visual Color Discrimination	The ability to match or detect differences between colors, including shades of color and brightness.	66
Arm-Hand Steadiness	The ability to keep your hand and arm steady while moving your arm or while holding your arm and hand in one position.	63
Finger Dexterity	The ability to make precisely coordinated movements of the fingers of one or both hands to grasp, manipulate, or assemble very small objects.	63
Information Ordering	The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).	63
Manual Dexterity	The ability to quickly move your hand, your hand together with your arm, or your two hands to grasp, manipulate, or assemble objects.	60
Visualization	The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.	60
Extent Flexibility	The ability to bend, stretch, twist, or reach with your body, arms, and/or legs.	56

Work Ability	Work Ability Description	Rank by Importance (Out of 100)
Flexibility of Closure	The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.	56
Oral Expression	The ability to communicate information and ideas in speaking so others will understand.	56
<u>Trunk Strength</u>	The ability to use your abdominal and lower back muscles to support part of the body repeatedly or continuously over time without 'giving out' or fatiguing.	56
<u>Category</u> <u>Flexibility</u>	The ability to generate or use different sets of rules for combining or grouping things in different ways.	53
Far Vision	The ability to see details at a distance.	53
Multilimb Coordination	The ability to coordinate two or more limbs (for example, two arms, two legs, or one leg and one arm) while sitting, standing, or lying down. It does not involve performing the activities while the whole body is in motion.	53
<u>Perceptual</u> <u>Speed</u>	The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.	53
Speech Clarity	The ability to speak clearly so others can understand you.	53
Written Comprehension	The ability to read and understand information and ideas presented in writing.	53
Control Precision	The ability to quickly and repeatedly adjust the controls of a machine or a vehicle to exact positions.	50
<u>Depth</u> <u>Perception</u>	The ability to judge which of several objects is closer or farther away from you, or to judge the distance between you and an object.	50
Fluency of Ideas	The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).	50

Work Ability	Work Ability Description	Rank by Importance (Out of 100)
<u>Gross Body</u> <u>Equilibrium</u>	The ability to keep or regain your body balance or stay upright when in an unstable position.	50
Mathematical Reasoning	The ability to choose the right mathematical methods or formulas to solve a problem.	50
Number Facility	The ability to add, subtract, multiply, or divide quickly and correctly.	50
Reaction Time	The ability to quickly respond (with the hand, finger, or foot) to a signal (sound, light, picture) when it appears.	50
<u>Selective</u> <u>Attention</u>	The ability to concentrate on a task over a period of time without being distracted.	50
Speech Recognition	The ability to identify and understand the speech of another person.	50
Static Strength	The ability to exert maximum muscle force to lift, push, pull, or carry objects.	47
<u>Auditory</u> <u>Attention</u>	The ability to focus on a single source of sound in the presence of other distracting sounds.	44
<u>Originality</u>	The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.	44
Speed of Closure	The ability to quickly make sense of, combine, and organize information into meaningful patterns.	44
<u>Stamina</u>	The ability to exert yourself physically over long periods of time without getting winded or out of breath.	44
Time Sharing	The ability to shift back and forth between two or more activities or sources of information (such as speech, sounds, touch, or other sources).	44
Written Expression	The ability to communicate information and ideas in writing so others will understand.	44
<u>Hearing</u> <u>Sensitivity</u>	The ability to detect or tell the differences between sounds that vary in pitch and loudness.	41
Memorization	The ability to remember information such as words, numbers, pictures, and procedures.	41

Work Ability	Work Ability Description	Rank by Importance (Out of 100)
Response Orientation	The ability to choose quickly between two or more movements in response to two or more different signals (lights, sounds, pictures). It includes the speed with which the correct response is started with the hand, foot, or other body part.	41
<u>Dynamic</u> <u>Strength</u>	The ability to exert muscle force repeatedly or continuously over time. This involves muscular endurance and resistance to muscle fatigue.	38
Glare Sensitivity	The ability to see objects in the presence of glare or bright lighting.	38
Gross Body Coordination	The ability to coordinate the movement of your arms, legs, and torso together when the whole body is in motion.	38
Speed of Limb Movement	The ability to quickly move the arms and legs.	38
<u>Wrist-Finger</u> <u>Speed</u>	The ability to make fast, simple, repeated movements of the fingers, hands, and wrists.	38
Spatial Orientation	The ability to know your location in relation to the environment or to know where other objects are in relation to you.	28
Rate Control	The ability to time your movements or the movement of a piece of equipment in anticipation of changes in the speed and/or direction of a moving object or scene.	25
Sound Localization	The ability to tell the direction from which a sound originated.	25
Night Vision	The ability to see under low light conditions.	22
Peripheral Vision	The ability to see objects or movement of objects to one's side when the eyes are looking ahead.	22
Explosive Strength	The ability to use short bursts of muscle force to propel oneself (as in jumping or sprinting), or to throw an object.	16
<u>Dynamic</u> <u>Flexibility</u>	The ability to quickly and repeatedly bend, stretch, twist, or reach out with your body, arms, and/or legs.	10

Typical Work Interests

This section shows the results of a national survey listing the most common work interests for Electricians in order of importance.

Work Interest	Work Interest Description	Rank by Importance (Out of 100)
Realistic	Realistic occupations frequently involve work activities that include practical, hands-on problems and solutions. They often deal with plants, animals, and real-world materials like wood, tools, and machinery. Many of the occupations require working outside, and do not involve a lot of paperwork or working closely with others.	100
Investigative	Investigative occupations frequently involve working with ideas, and require an extensive amount of thinking. These occupations can involve searching for facts and figuring out problems mentally.	39
Conventional	Conventional occupations frequently involve following set procedures and routines. These occupations can include working with data and details more than with ideas. Usually there is a clear line of authority to follow.	39
Enterprising	Enterprising occupations frequently involve starting up and carrying out projects. These occupations can involve leading people and making many decisions. Sometimes they require risk taking and often deal with business.	28

Source: This information is based on O*NET™ data. O*NET is a trademark registered to the U.S. Department of Labor, Employment and Training Administration.

Typical Work Styles

This section shows the most common work styles required by Electricians in order of importance. Click on a link in the Work Style column to view more detailed information.

Rank by Importance (Out of 100)
88

Work Style	Work Style Description	Rank by Importance (Out of 100)
Attention to Detail	Job requires being careful about detail and thorough in completing work tasks.	87
<u>Integrity</u>	Job requires being honest and ethical.	81
Analytical Thinking	Job requires analyzing information and using logic to address work-related issues and problems.	79
<u>Initiative</u>	Job requires a willingness to take on responsibilities and challenges.	78
<u>Leadership</u>	Job requires a willingness to lead, take charge, and offer opinions and direction.	78
Self Control	Job requires maintaining composure, keeping emotions in check, controlling anger, and avoiding aggressive behavior, even in very difficult situations.	78
Adaptability/Flexibility	Job requires being open to change (positive or negative) and to considerable variety in the workplace.	77
<u>Persistence</u>	Job requires persistence in the face of obstacles.	75
Stress Tolerance	Job requires accepting criticism and dealing calmly and effectively with high stress situations.	75
Cooperation	Job requires being pleasant with others on the job and displaying a good-natured, cooperative attitude.	74
Achievement/Effort	Job requires establishing and maintaining personally challenging achievement goals and exerting effort toward mastering tasks.	65
<u>Innovation</u>	Job requires creativity and alternative thinking to develop new ideas for and answers to work-related problems.	65
<u>Independence</u>	Job requires developing one's own ways of doing things, guiding oneself with little or no supervision, and depending on oneself to get things done.	63

Work Style	Work Style Description	Rank by Importance (Out of 100)
Concern for Others	Job requires being sensitive to others' needs and feelings and being understanding and helpful on the job.	59
Social Orientation	Job requires preferring to work with others rather than alone, and being personally connected with others on the job.	52

Related Occupations

This section shows a list of occupations related to Electricians. Click an occupation title to see more information about that occupation.

Rank	Related Occupations	Duties	*Related By
1	<u>Glaziers</u> •	Install glass in windows, skylights, store fronts, and display cases, or on surfaces, such as building fronts, interior walls, ceilings, and tabletops.	SOC4
2	Insulation Workers, Floor, Ceiling, and Wall	Line and cover structures with insulating materials. May work with batt, roll, or blown insulation materials.	SOC4
3	Insulation Workers, Mechanical	Apply insulating materials to pipes or ductwork, or other mechanical systems in order to help control and maintain temperature.	SOC4
4	Painters, Construction and Maintenance	Paint walls, equipment, buildings, bridges, and other structural surfaces, using brushes, rollers, and spray guns. May remove old paint to prepare surface prior to painting. May mix colors or oils to obtain desired color or consistency.	SOC4
5	<u>Paperhangers</u>	Cover interior walls or ceilings of rooms with decorative wallpaper or fabric, or attach advertising posters on surfaces such as walls and billboards. May remove old materials or prepare surfaces to be papered.	SOC4
6	Plumbers, Pipefitters, and Steamfitters.	Assemble, install, alter, and repair pipelines or pipe systems that carry water, steam, air, or other liquids or gases. May install heating and cooling equipment and mechanical control systems. Includes sprinklerfitters.	SOC4

Rank	Related Occupations	Duties	*Related By
7	<u>Roofers</u> → <i>p</i>	Cover roofs of structures with shingles, slate, asphalt, aluminum, wood, or related materials. May spray roofs, sidings, and walls with material to bind, seal, insulate, or soundproof sections of structures.	SOC4
8	<u>Pipelayers</u> •	Lay pipe for storm or sanitation sewers, drains, and water mains. Perform any combination of the following tasks: grade trenches or culverts, position pipe, or seal joints.	SOC4
9	Plasterers and Stucco Masons	Apply interior or exterior plaster, cement, stucco, or similar materials. May also set ornamental plaster.	SOC4
10	Reinforcing Iron and Rebar Workers	Position and secure steel bars or mesh in concrete forms in order to reinforce concrete. Use a variety of fasteners, rod-bending machines, blowtorches, and hand tools. Includes rod busters.	SOC4
11	Commercial Divers	Work below surface of water, using scuba gear to inspect, repair, remove, or install equipment and structures. May use a variety of power and hand tools, such as drills, sledgehammers, torches, and welding equipment. May conduct tests or experiments, rig explosives, or photograph structures or marine life.	O*NET
12	Construction Carpenters ❖ ≠	Construct, erect, install, and repair structures and fixtures of wood, plywood, and wallboard, using carpenter's hand tools and power tools.	O*NET
13	Elevator Installers and Repairers	Assemble, install, repair, or maintain electric or hydraulic freight or passenger elevators, escalators, or dumbwaiters.	O*NET
14	Heating and Air Conditioning Mechanics and Installers	Install, service, or repair heating and air conditioning systems in residences or commercial establishments.	O*NET
15	Manufactured Building and Mobile Home Installers	Move or install mobile homes or prefabricated buildings.	O*NET
16	<u>Millwrights</u> ◆ ≠	Install, dismantle, or move machinery and heavy equipment according to layout plans, blueprints, or other drawings.	O*NET

Rank	Related Occupations	Duties	*Related By
17	<u>Pipe Fitters and</u> <u>Steamfitters</u> ◆ •	Lay out, assemble, install, or maintain pipe systems, pipe supports, or related hydraulic or pneumatic equipment for steam, hot water, heating, cooling, lubricating, sprinkling, or industrial production or processing systems.	O*NET
18	<u>Plumbers</u> → <i>p</i>	Assemble, install, or repair pipes, fittings, or fixtures of heating, water, or drainage systems, according to specifications or plumbing codes.	O*NET
19	Refrigeration Mechanics and Installers •	Install and repair industrial and commercial refrigerating systems.	O*NET
20	Aircraft Mechanics and Service Technicians	Diagnose, adjust, repair, or overhaul aircraft engines and assemblies, such as hydraulic and pneumatic systems. Includes helicopter and aircraft engine specialists.	O*NET
21	Airline Pilots, Copilots, and Flight Engineers	Pilot and navigate the flight of fixed-wing, multi-engine aircraft, usually on scheduled air carrier routes, for the transport of passengers and cargo. Requires Federal Air Transport Pilot certificate and rating for specific aircraft type used. Includes regional, National, and international airline pilots and flight instructors of airline pilots.	O*NET
22	Automotive Master Mechanics	Repair automobiles, trucks, buses, and other vehicles. Master mechanics repair virtually any part on the vehicle or specialize in the transmission system.	O*NET
23	Chemical Plant and System Operators ►	Control or operate entire chemical processes or system of machines.	O*NET
24	Commercial Pilots	Pilot and navigate the flight of fixed-winged aircraft on nonscheduled air carrier routes, or helicopters. Requires Commercial Pilot certificate. Includes charter pilots with similar certification, and air ambulance and air tour pilots.	O*NET
25	Electrical and Electronics Repairers, Commercial and Industrial Equipment	Repair, test, adjust, or install electronic equipment, such as industrial controls, transmitters, and antennas.	O*NET

Rank	Related Occupations	Duties	*Related By
26	Forest and Conservation Technicians	Provide technical assistance regarding the conservation of soil, water, forests, or related natural resources. May compile data pertaining to size, content, condition, and other characteristics of forest tracts, under the direction of foresters; or train and lead forest workers in forest propagation, fire prevention and suppression. May assist conservation scientists in managing, improving, and protecting rangelands and wildlife habitats.	O*NET
27	Industrial Machinery Mechanics	Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems.	O*NET
28	Maintenance and Repair Workers, General	Perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair. Duties may involve pipe fitting; boiler making; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors, or stairs.	O*NET
29	Mobile Heavy Equipment Mechanics, Except Engines	Diagnose, adjust, repair, or overhaul mobile mechanical, hydraulic, and pneumatic equipment, such as cranes, bulldozers, graders, and conveyors, used in construction, logging, and surface mining.	O*NET
30	<u>Pilots, Ship</u>	Command ships to steer them into and out of harbors, estuaries, straits, or sounds, or on rivers, lakes, or bays. Must be licensed by U.S. Coast Guard with limitations indicating class and tonnage of vessels for which license is valid and route and waters that may be piloted.	O*NET
31	Robotics Technicians ►	Build, install, test, or maintain robotic equipment or related automated production systems.	O*NET
32	<u>Ship Engineers</u>	Supervise and coordinate activities of crew engaged in operating and maintaining engines, boilers, deck machinery, and electrical, sanitary, and refrigeration equipment aboard ship.	O*NET
33	Stationary Engineers and Boiler Operators •	Operate or maintain stationary engines, boilers, or other mechanical equipment to provide utilities for buildings or industrial processes. Operate equipment, such as steam engines, generators, motors, turbines, and steam boilers.	O*NET

Rank	Related Occupations	Duties	*Related By
34		Install, set-up, rearrange, or remove switching, distribution, routing, and dialing equipment used in central offices or headends. Service or repair telephone, cable television, Internet, and other communications equipment on customers' property. May install communications equipment or communications wiring in buildings.	O*NET

BRIGHT OUTLOOK NATIONALLY FREEN OCCUPATIONS

Source: **Related By: O*NET™ - The <u>Occupational Information Network</u>. O*NET is a registered trademark of the <u>US Department of Labor/Employment and Training Administration</u>.

SOC4 - Occupational grouping based on 1st 4 digits of the <u>Standard Occupational Classification</u> system.

Career Ladder

This section shows the top 10 occupations and the corresponding individuals in the workforce system who were previously Electricians and have changed their occupation over the last 5 years.

Occupation Title	Number of Individuals that Moved	Percentage of Individuals that Moved
HelpersElectricians.	400	24.77%
Electrical and Electronics Repairers, Commercial and Industrial Equipment	314	19.44%
First-Line Supervisors of Construction Trades and Extraction Workers	149	9.23%
Maintenance and Repair Workers, General • •	137	8.48%
Construction Laborers • •	132	8.17%
Electric Motor, Power Tool, and Related Repairers	132	8.17%
Pipe Fitters and Steamfitters • •	91	5.63%
Laborers and Freight, Stock, and Material Movers, Hand	91	5.63%
HelpersInstallation, Maintenance, and Repair Workers • •	88	5.45%
Electrical and Electronics Installers and Repairers, Transportation Equipment	81	5.02%

BRIGHT OUTLOOK NATIONALLY | GREEN OCCUPATIONS

Source: Individuals with active résumés in the workforce system.

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