Job Roles and Responsibilities in Canada

Electricians
Acknowledgments

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Disclaimer

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Please contact the Winnipeg Technical College at 989-6500 or www.wtc.mb.ca if you have questions about the contents of this document.
Introduction

Electricians work in a variety of settings in Manitoba. Knowledge and understanding of the roles and responsibilities of electricians is necessary when thinking about enrolling in technical training.

The information provided in this booklet will assist you in your studies and will increase your awareness of the roles and responsibilities of electricians. A detailed description of job duties, employment requirements, skills, education and training are all included in this package.

Description

Electricians lay out, assemble, install, test and repair electrical wiring, light-fixtures, control devices and related equipment in buildings and other structures. They are employed by electrical contractors and maintenance departments of buildings and other companies, or they may be self-employed. Classified under the National Occupational Classification (NOC) # 7241

Example Titles

- Apprentice electrician
- Construction electrician
- Construction electrician apprentice
- Domestic and rural electrician
- Electrician

Classified Elsewhere

- Electrical Mechanics (7333)
- Industrial Electricians (7242)
- Power System Electricians (7243)
- Supervisors of Electricians (in 7212 Contractors and Supervisors, Electrical Trades and Telecommunications Occupations)
Work Environment

Electricians usually work indoors in buildings that are being constructed or changed (under renovations). Electricians spend a lot of time standing, and they need to be careful to avoid injury from electric shock.

Electricians normally have to travel to the job site, which could be a long distance from home. Electricians can work on their own or as part of a construction team.

Language Requirements

It is important as an Electrician to be able to speak, listen, read and write English. It is very important to employers that you can communicate well orally, both with them and with your customers. Much of the oral communication takes place on the phone. You should be able to express yourself clearly and accurately to do your job well. A high level of reading is also required.

*It is important to note that language entrance requirements and test requirements vary in different colleges. Contact the colleges to see what is required.*

Recommended Canadian Language Benchmark Levels for Electrical Training¹

<table>
<thead>
<tr>
<th>Listening</th>
<th>Speaking</th>
<th>Reading</th>
<th>Writing</th>
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<tbody>
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<td>7</td>
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Recommended TOEFL scores²

<table>
<thead>
<tr>
<th>Paper Based</th>
<th>Computer Based</th>
<th>Internet Based</th>
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</thead>
<tbody>
<tr>
<td>550</td>
<td>213</td>
<td>80</td>
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¹ [www.gov.mb.ca](http://www.gov.mb.ca)
Note: This occupation/training has not been formally benchmarked.
² These are the current TOEFL entrance requirements at some colleges.
For those individuals where English is an Additional Language (EAL), it is recommended that you take a Canadian Language Benchmark Placement Test to determine your level of English, and to see which English classes are available to you. Contact the Winnipeg English Language Assessment and Referral Centre for an appointment:

Winnipeg English Language Assessment and Referral Centre
400 - 275 Portage Avenue
Winnipeg, Manitoba R3B 2B3
Phone: 204-943-5387

Skills

Electricians need the following skills and abilities:

- Enjoyment in working with electrical systems and motors
- Concern for safety
- Knowledge of electrical standards for installation and repairs
- Aptitude for mathematics and science
- Background in technical and mechanical knowledge and skills
- Good eyesight and hand-eye coordination
- Creativity and a logical approach to problem-solving
- Physical strength and endurance
- Ability to understand blueprints and specifications
- Knowledge about computerized systems
- Ability to work alone or as a member of a team
- Ability to communicate with customers and co-workers politely
- Interest in the latest technology

Do you have many of these skills?
Main Duties

Electricians perform some or all of the following duties:

- Read and interpret drawings, circuit diagrams and electrical code specifications to plan wiring layouts.
- Pull wire through conduits and through holes in walls and floors.
- Install brackets and hangers to support electrical equipment.
- Install, replace and repair lighting fixtures and electrical control and distribution equipment, such as switches, relays and circuit breaker panels.
- Join and connect wire to fixtures and components to form circuits.
- Test completion of circuits using test equipment.
- Troubleshoot and isolate faults in electrical and electronic systems and remove and replace faulty parts.
- Connect electrical power to sound and visual communication equipment, signalling devices and heating and cooling systems.

Do you think you would enjoy doing the work described above?

The Importance of Safety in Canada

Safety in the workplace is very important in Canada. If your employer sees you are not listening to the safety rules, you may be fired immediately.

The company is responsible for:

- Training employees how to work safely
- Telling employees about things that are dangerous in the workplace
• Giving employees safety equipment and make sure they wear it

The employee is responsible for:

• Following the company’s safety rules (sometimes called “policies”)
• Wearing safety equipment
• Telling the supervisor if they see something that is dangerous
• Not doing anything that they think is unsafe

It is your responsibility to ask questions when you don’t understand.

For more information: www.safemanitoba.com

Terms & Conditions

The majority of electricians in Manitoba work full time (92%); however, there may be periods of unemployment between projects. Most electricians work a 40-hour week, although overtime is fairly common.

In Manitoba the majority of electricians (81%) are employed by construction companies or organizations providing building maintenance services. The remainder (18%) are self-employed.

Earnings

$31,200.00 per annum - starting (Level 1 Apprentice)

$48,400.00 per annum - average

$58,600.00 per annum – high (Red Seal Certified)
Education / Training

Apprenticeship

To become a certified construction electrician, you must complete apprenticeship training that combines on the job (practical) experience and in-school (technical) training. First find an employer who will apprentice you and sign an apprenticeship agreement. Then contact the Apprenticeship Branch to formalize the apprenticeship agreement between you and your employer. As you learn the skills of your trade, you are paid a wage that increases over the length of your apprenticeship.

You must be at least 16 years of age and have a grade 12 or equivalent high school academic standing with credits in mathematics and science.

Network, network, network!³

Here are some tips on how to find an employer who is participating in an apprenticeship program.

- Go to where electricians are employed
- Ask your career counsellor for advice. Check with joint labour/management training boards and trade associations to see if they know of any employers who are looking for an apprentice.
- Tell people you know that you are looking for a job. Carry a resume with you everywhere. Ask to speak with a manager/supervisor and leave your resume with them even if they are not hiring.
- Get the names and phone numbers of the employers and managers/supervisors whom

³ www.gov.mb.ca/tce/apprent/future/find_employer.html

FIND AN EMPLOYER

You must find a qualified employer who will give you practical training and hire you full time. Approach this like any other job search. Remember that 80% of all job openings are never advertised. *The employer must employ a certified journeyperson or a designated trainer who will mentor you throughout your on-the-job training.*
you’ve contacted. Contact them again after a couple of weeks. This tells them that you really want the job.

- Once you have found an employer to hire you, you’ll need to register as an apprentice. Either you or your employer must complete an Apprenticeship Application/Agreement, which will require information and signature from both of you. If you are not a Canadian citizen or permanent resident, a work permit and study permit will also be required. To confirm specific details of your apprenticeship training, arrange to meet with the trade specific Apprenticeship Training Coordinator who will outline:
  - The length of the training program
  - The skills that must be learned
  - The pay (wages)

- The apprenticeship for a construction electrician is four years. Training and in-school instruction is a minimum 1,800 hours per year. About 80% of your time is spent learning practical on-the-job skills while supervised by a qualified journeyperson. The theoretical and technical aspects of your trade take 20%.

- If you now work as an electrician and want to become a fully qualified journeyperson, you can receive credit for previous job experience and training, and qualify for certification by passing a theory and practical Trades Qualification Exam. If you do not meet exam requirements, upgrading courses are available.

**The following post-secondary institutions offer related training in this field:**

- Assiniboine Community College offers a one-year entry level Construction Electrician certificate program. This program is accredited by the Manitoba Competitiveness, Training & Trade Apprenticeship Branch as meeting the requirements for Level 1 in-school training. Graduates of the program may receive credit for up to 900 hours towards a 4-year (7200 hour) electrical apprenticeship.
• The University College of the North and Red River College offer a one-year Electrical certificate program.

• The University College of the North also offers a two-year diploma program in Electrical/Electronic Technology and a one-year certificate program in Preparation for Electrical/Electronic and Computer Technology. Graduates of this program enter the first year of the Electrical/Electronic Technology or Computer Technology diploma program with credit for approximately 15% of their first year courses.

• Red River College offers a two-year diploma program in Electronic Engineering Technology. Students who successfully complete the first year of studies in Electronic Engineering Technology may then transfer into one of the following programs: Communication; Computer; Electrical; Electronic, and Instrumentation Engineering Technology programs have a common first year of training. Graduates of this program, who are interested in further studies towards a degree in engineering, may be able to transfer credit to the University of Manitoba, or to Lakehead University in Thunder Bay, Ontario. Students may be able to transfer credits to Athabasca University toward a Bachelor of Science degree or to Brandon University toward a Bachelor of Applied Physics degree.

• Winnipeg Technical College offers a program in Electrical Applications. This program is accredited by the Manitoba Competitiveness, Training & Trade Apprenticeship Branch as meeting the requirements for Level 1 in-school training.

• Some high schools in Manitoba offer an Electrical/Electronics program.

**Employment Requirements**

• To work legally in Manitoba as an electrician, you must be a registered apprentice or a certified journeyperson. You must also have an electrician's licence issued under the Electrician's Act.

• Completion of secondary school is usually required.
• Completion of a four-year apprenticeship program is often required.
• Some employers will require new workers to have a basic set of hand tools, e.g., wire strippers, voltage tick, screw-drivers or lineman pliers.
• Inter-provincial trade certification (Red Seal) is also available to qualified construction electricians.

Career Paths

Electricians may advance to positions, such as foreman, superintendent, estimator or electrical inspector. Journeyman electricians, who wish to obtain certification in the instrument technician trade and have an employer's recommendation, may apply for credit toward the apprenticeship.

Other related occupations include appliance service technician, communication electrician, electrical motor system technician, electronic technician, elevator constructor, power lineman, power system electrician, electrical maintenance technician, instrument technician, and refrigeration and air conditioning mechanic.

Some electricians start their own contracting businesses.

Employment Opportunities

Employment opportunities for electricians are expected to be good in the 2008 to 2012 period. Employment in Manitoba in 2008 is estimated at 2,095.

Economic growth, low unemployment and low interest rates are the key factors behind the positive outlook for continued growth in commercial and residential construction and renovation. Changes in building design, specifically the increasing use of optical fibre and electronic controls for temperature, humidity, lighting and security systems, are transforming the role of the electrician in residential and commercial construction.
Electricians are also required in the retrofitting and upgrading of older industrial facilities and institutions, such as hospitals, to accommodate the new technologies and to meet changing requirements in building codes. Furthermore, opportunities in Alberta and construction for the 2010 Olympics in British Columbia will likely draw some tradespeople and create openings locally.

A proportionally larger number of jobs are located in rural Manitoba. The majority of electricians work in the Construction industry (62%).

**Professional Associations**

- Canadian Electrical Contractors Association, 170 Attwell Drive Suite 460, Toronto, ON, M9W 5Z5, [www.ceca.org](http://www.ceca.org)
- Construction Association of Rural Manitoba, 950 - 10th Street, Unit B, Brandon, MB, R7A 6B5.
- Construction Labour Relations Association of Manitoba, 290 Burnell Street, Winnipeg, MB, R3G 2A7, [www.clram.ca](http://www.clram.ca)
- Construction Safety Association of Manitoba, 290 Burnell Street, Winnipeg, MB, R3G 2A7, [www.constructionsafety.ca](http://www.constructionsafety.ca)
- Construction Specifications Canada, 290 Burnell Street, Winnipeg, MB, R3G 2A7, [www.cscwinnipeg.ca](http://www.cscwinnipeg.ca)
- International Brotherhood of Electrical Workers, Local 2085, 556 Notre Dame Avenue, Winnipeg, MB, R3B 1S4, [www.ibew.org](http://www.ibew.org)
- Manitoba Building & Construction Trades Council, 508-138 Portage Avenue, Winnipeg, MB, R3C 0A1
- Manitoba Electrical League, 104-780 Wellington Avenue, Winnipeg, MB, R3H 1B3, [www.meleague.net](http://www.meleague.net)
- Manitoba Federation of Labour, 503-275 Broadway Avenue, Winnipeg, MB, R3C 4M6, [www.mfl.mb.ca](http://www.mfl.mb.ca)
• Manitoba Home Builders Association, Unit I, 1420 Clarence Avenue, Winnipeg, MB, R3T 1T6, www.homebuilders.mb.ca

• Merit Contractors Association of Manitoba, Box 47027 RPO Marion, Winnipeg, MB, R2H 3G9, www.meritmb.com

• Winnipeg Construction Association, 290 Burnell Street, Winnipeg, MB, R3G 2A7, www.wpgca.com

References


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