



## **INDUSTRIAL ELECTRICIAN**

**THIS BC PROGRAM HAS BEEN HARMONIZED AND IS BASED ON 2016 RSOS**

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### **Occupation Description**

Industrial Electricians inspect, install, test, troubleshoot, repair, and service industrial electrical equipment and associated electrical and electronic controls. Service includes calibration and preventative/predictive maintenance. Industrial electricians are employed by maintenance departments of plants, mines, smelters, oil and gas operations, mills, shipyards, utility companies, manufacturing facilities and other industrial establishments. Some are employed by electrical contractors.

For detailed information on the scope of knowledge and skills taught and assessed in this program refer to the Program Outline, available on the SkilledTradesBC website.

### **Pathways to Certification**

In BC, an individual can become certified as an Industrial Electrician by completing the Industrial Electrician Apprenticeship program or by challenging the certification. Apprenticeship programs are for individuals who have an employer to sponsor them and challenge programs are for individuals who have extensive experience working in the occupation and wish to challenge the certification.

Youth can begin an apprenticeship in high school through the Youth Train in Trades or Youth Work in Trades programs. The Youth Work in Trades program is available for any trade if an employer is willing to sponsor the student. Trades offered through the Youth Train in Trades vary by region; contact your local school district to find out which technical training programs are being offered through the Youth Train in Trades program in your region.

Foundation programs, where available, provide adults and youth who do not have work experience nor employer sponsorship with an opportunity to gain the knowledge and skills needed to enter the occupation. Individuals who wish to enroll in a Foundation program must register directly with the training provider.

### **Recommended Education**

The following education is **recommended** for apprentices entering this occupation. These are not prerequisites, but rather a desired level of skill or knowledge that will contribute to success in the industry.

- Recent Grade 12 graduate (within the past 5 years) with demonstrated mechanical aptitude, and:
  - Principles of Mathematics 11 or 12, Pre-calculus 11 or 12, or equivalent
  - English 12 or Communications 12
  - Physics 11 or 12

OR

- Recent Electrical Foundation Program Graduate (ELTT within the past 5 years) of an SkilledTradesBC approved program.

Industry strongly recommends that apprentices considering attending Level 1 Construction Electrician technical training have at least one year of work-based training as an electrical apprentice before beginning their in-school technical training.

**SkilledTradesBC Registration**

Individuals who wish to begin an apprenticeship in this program must register with SkilledTradesBC along with their sponsor. Application forms for all programs are available from the SkilledTradesBC website. Online registration is also available for most programs through the SkilledTradesBC website.

Those who wish to challenge the Industrial Electrician certification must complete the Industrial Electrician Challenge Application and submit it to SkilledTradesBC. Challenge applications are assessed for proof of workplace hours and scope of experience prior to acceptance of the individual into the Challenge pathway.

**Skilled Trades Certification**

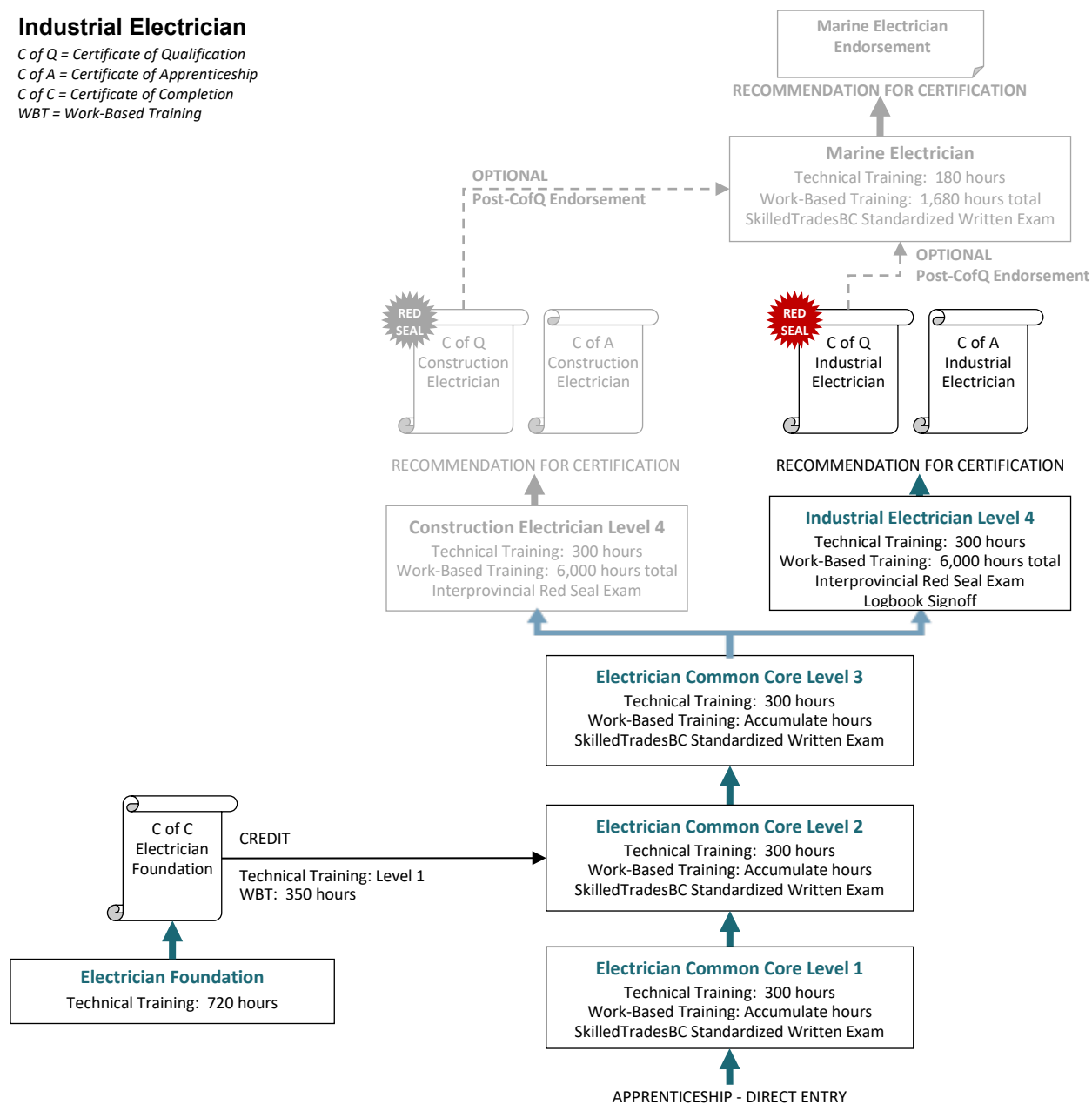
Trade workers in a trade designated as Skilled Trades Certification (STC) are required to hold certification in the trade, be registered as an apprentice, or have an approved Temporary Authorization. More information can be found at [www.skilledtradesbc.ca](http://www.skilledtradesbc.ca)

## Apprenticeship Pathway with Optional Endorsement

This graphic provides an overview of the Industrial Electrician apprenticeship pathway.

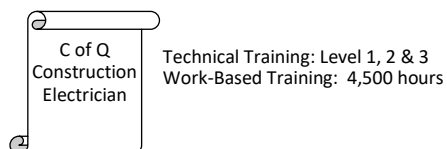
### Industrial Electrician

*C of Q = Certificate of Qualification*  
*C of A = Certificate of Apprenticeship*  
*C of C = Certificate of Completion*  
*WBT = Work-Based Training*



### CROSS-PROGRAM CREDITS

Individuals who hold the credentials listed below are entitled to receive partial credit toward the completion requirements of this program





### Apprenticeship Program Standards

**Credentials Awarded**

- Industrial Electrician – Certificate of Qualification with Interprovincial Red Seal endorsement
- Industrial Electrician – Certificate of Apprenticeship

**SkilledTradesBC  
Registration Prerequisites**

- Agreement signed by the employer to sponsor the apprentice

**Completion Requirements** Certification as an Industrial Electrician is awarded upon successful completion of:

**Requirement**
**Level of Achievement Required**
**Technical Training**

Minimum 70% in each level of technical training:

- Electrician Common Core Level 1: 300 hours and SkilledTradesBC Standardized Written Exam
- Electrician Common Core Level 2: 300 hours and SkilledTradesBC Standardized Written Exam
- Electrician Common Core Level 3: 300 hours and SkilledTradesBC Standardized Written Exam
- Industrial Electrician Level 4: 300 hours

**Industrial Electrician Logbook**

- Industrial Electrician apprentices are required to keep a logbook recording their work experience throughout their apprenticeship. Credentials eligible to sign off the logbook: See Sign-off Authority list.

**Interprovincial Red Seal Exam**

- Minimum 70%

**Work-Based Training**

- 6,000 hours

**Recommendation for Certification**

- Recommendation for certification signed by the Sponsor and an individual holding credentials eligible for sign-off authority

**Program Duration**

Duration varies depending on how training is delivered, but the program generally takes 4 years to complete.

The technical training requirement is typically met through block-release training (full-time, at school) delivered by a SkilledTradesBC-approved training provider. It can also be met through approved alternative training models (e.g., distance education, online, part-time) and/or level challenge where these options are available.

**Sign-off Authority**

Credentials eligible to sign-off on the Industrial Electrician Logbook and Recommendation for Certification:

- Industrial Electrician – Certificate of Qualification with Interprovincial Red Seal endorsement
- Industrial Electrician – Certificate of Qualification
- Construction Electrician – Certificate of Qualification with Interprovincial Red Seal endorsement
- Construction Electrician – Certificate of Qualification
- Electrician – Certificate of Qualification with Interprovincial Red Seal endorsement
- Electrician – Certificate of Qualification
- Uncertified Experienced Worker with a valid and active Temporary Authorization issued from SkilledTradesBC



### Apprenticeship Program Standards

#### Challenging a Level

The following levels of technical training can be challenged for advanced placement in this program. Note that there are eligibility requirements to challenge a level as this program falls under Skilled Trades Certification.

##### Level

- Common Core Level 1
- Common Core Level 2
- Common Core Level 3

#### Skilled Trades Certification Supervision Ratio

The ratio of apprentice to journeyperson is 2:1. This applies to apprentices in Levels 1, 2 and 3. Apprentices in Level 4 are exempt from the ratio.

A Level 4 apprentice is defined as someone who has:

- Successfully completed Technical Training requirements for Levels 1, 2, and 3.
- Recorded at least 4,500 hours of Work Based Training.

#### Cross-Program Credits

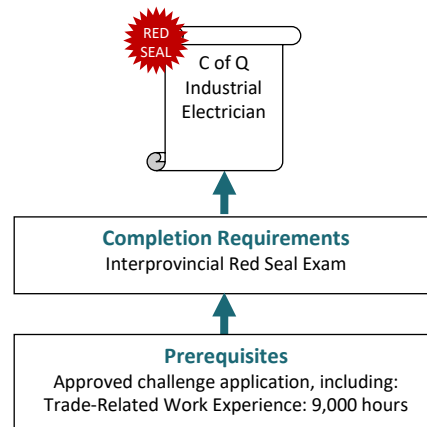
Individuals who hold the credentials listed below are entitled to receive partial credit toward the completion requirements of this program

	<b>Credential</b>	<b>Credit(s) Granted</b>
	Construction Electrician – Certificate of Qualification	<ul style="list-style-type: none"> <li>▪ Technical Training: Level 1, 2 &amp; 3</li> <li>▪ Work-Based Training: 4,500 hours</li> </ul>
	Construction Electrician – Level 1 & 2 Technical Training	<ul style="list-style-type: none"> <li>▪ Technical Training: Level 1 and 2</li> <li>▪ Work-based Training: None</li> </ul>

## Challenge Pathway

This graphic provides an overview of the Industrial Electrician challenge pathway.

*C of Q = Certificate of Qualification*



### CREDIT FOR PRIOR LEARNING

*Individuals who hold the credentials listed below are entitled to receive partial credit toward the completion requirements of this program*

Military certificate in Electrical Technician MT #125 / Marine Electrician MT #331/332, QL5 or higher

Work Experience:  
9,000 hours

C of Q  
Construction  
Electrician

Work Experience: 6,000 hours



### Challenge Program Standards

#### Credentials Awarded

Industrial Electrician – Certificate of Qualification with Interprovincial Red Seal endorsement

#### SkilledTradesBC

#### Registration Prerequisites

An approved Challenge Application, which includes:

- 9,000 documented hours of directly related experience working in the occupation

#### Credit for Prior Learning

Individuals who hold the credentials listed below are considered to have met, or partially met, the prerequisites for challenging this program:

##### Credential

##### Credit(s) Granted

Military certificate in Electrical Technician MT #125 / Marine Electrician MT #331/332, QL5 or higher

- Work Experience: 9,000 hours

Construction Electrician – Certificate of Qualification

- Work Experience: 6,000 hours

#### Completion Requirements

Certification as an Industrial Electrician is awarded upon successful completion of:

##### Requirement

##### Level of Achievement Required

Interprovincial Red Seal Exam

- Minimum 70%



## Foundation Program

Refer to the Apprenticeship pathway diagram for this program to see how the Electrician Foundation program leads to apprenticeship in this trade.

### Foundation Program Standards

**Credentials Awarded** Electrician – Certificate of Completion

**Enrollment Prerequisites** Contact training provider. Prerequisites vary between training institutions

**Completion Requirements** A Certificate of Completion in this program is awarded upon successful completion of:

#### Requirement

#### Level of Achievement Required

Technical Training

- Minimum 70%

#### Program Duration

Duration varies depending on how training is delivered, but program generally takes 720 hours to complete.

#### Credit toward Apprenticeship

Individuals who complete the Electrician Foundation program will receive the following credit toward completion of the Construction Electrician apprenticeship program:

- Technical Training: Level 1 Electrician Common Core
- Work-based Training: 350 hours



## Marine Electrician Endorsement Program

Refer to the Apprenticeship pathway credentialing model for this program to see how the Marine Electrician Endorsement program fits into the apprenticeship pathway for this occupation.

### Marine Electrician Endorsement Program Standards

#### Credentials Awarded

- Marine Electrician Endorsement

#### SkilledTradesBC

#### Registration Prerequisites

- Agreement signed by the employer to sponsor the apprentice
- Certificate of Qualification with Red Seal Endorsement in a qualifying trade:
  - Construction Electrician OR
  - Industrial Electrician

#### Completion Requirements

Certification as a Marine Electrician is awarded upon successful completion of:

Requirement	Level of Achievement Required
Technical Training	Minimum 70% in each level of technical training: <ul style="list-style-type: none"> <li>▪ Level 1: 180 hours</li> </ul>
SkilledTradesBC Standardized Written Exam	<ul style="list-style-type: none"> <li>▪ Minimum 70%</li> </ul>
Work-Based Training	<ul style="list-style-type: none"> <li>▪ 1,680 hours</li> </ul>
Recommendation for Certification	<ul style="list-style-type: none"> <li>▪ Recommendation for certification signed by the Sponsor and an individual holding credentials eligible for sign-off authority</li> </ul>

#### Program Duration

Duration varies depending on how training is delivered, but the program generally takes 1 year to complete.

The technical training requirement is typically met through block-release training (full-time, at school) delivered by an SkilledTradesBC-approved training provider. It can also be met through approved alternative training models (e.g., distance education, online, part-time) and/or level challenge where these options are available.

#### Sign-off Authority

Credentials eligible to sign-off on the Recommendation for Certification:

- Construction Electrician – Certificate of Qualification with Red Seal endorsement
- Industrial Electrician – Certificate of Qualification with Red Seal endorsement
- Marine Electrician Endorsement holders

#### Challenging a Level

The following levels of technical training can be challenged for advanced placement in this program

- None

#### Cross-Program Credits

Individuals who hold the credentials listed below are entitled to receive partial credit toward the completion requirements of this program

- None



## Supporting Documents

Industrial Electrician Program Outline (2017) Defines the full scope of knowledge and skills required to competently perform the occupation in BC. Available from the SkilledTradesBC website.

Industrial Electrician Red Seal Occupational Standard (2016) – Prepared by industry experts, under the guidance of the federal government, for Red Seal trades to define the national standard of competence for the trade. Available from the Red Seal website: [www.red-seal.ca](http://www.red-seal.ca).

Industrial Electrician Logbook – Industrial Electrician apprentices are required to keep a logbook recording their work experience throughout their apprenticeship. The logbook is also used to validate completion of required workplace competencies. Available from the SkilledTradesBC website.

## Contacts

SkilledTradesBC manages B.C.'s industry training and apprenticeship programs. Contact SkilledTradesBC Customer service if you have any questions regarding registration, examinations or certification for this program.

Telephone:	778-328-8700	Fax:	778-328-8701
Toll Free (within BC):	1-866-660-6011	Email:	<a href="mailto:customerservice@skilledtradesbc.ca">customerservice@skilledtradesbc.ca</a>
Website:	<a href="http://www.skilledtradesbc.ca">www.skilledtradesbc.ca</a>		

## Revision History

The standards for this program were reviewed and/or updated on the dates below.

Program Standards Approved:	February 2006
Updated:	January 2009
	February 2016
	July 2016
	November 2016
	January 2017
	February 2017
	April 2018

Program Profiles are updated regularly. Visit [www.skilledtradesbc.ca](http://www.skilledtradesbc.ca) for the most current version.