

## REFRIGERATION AND AIR CONDITIONING MECHANIC (REFRIGERATION MECHANIC)

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### Occupation Description

“Refrigeration Mechanic” means a person who fabricates, installs, alters, repairs/services any system used for cooling and/or heating (i.e. heat pumps) in closed systems that contain a refrigerant or a brine and thermoelectric cooling. Includes piping, controls and electrical work usually performed by a journey person.

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

### Pathways to Certification

In BC, an individual can become certified as a Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) by completing the Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) 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 apprenticeship in high school through either the Secondary School Apprenticeship (SSA) program or the ACE IT program. The SSA program is available for any trade if an employer is willing to sponsor the student. Trades offered through ACE IT vary by region; contact your local school district to find out which technical training programs are being offered through ACE IT in your region.

Foundation programs, where available, provide adults and youth who do not have work experience or 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.

- Grade 10 or equivalent including English 10, Math 10 and Science 10
- Preferred: Grade 12

### ITA Registration

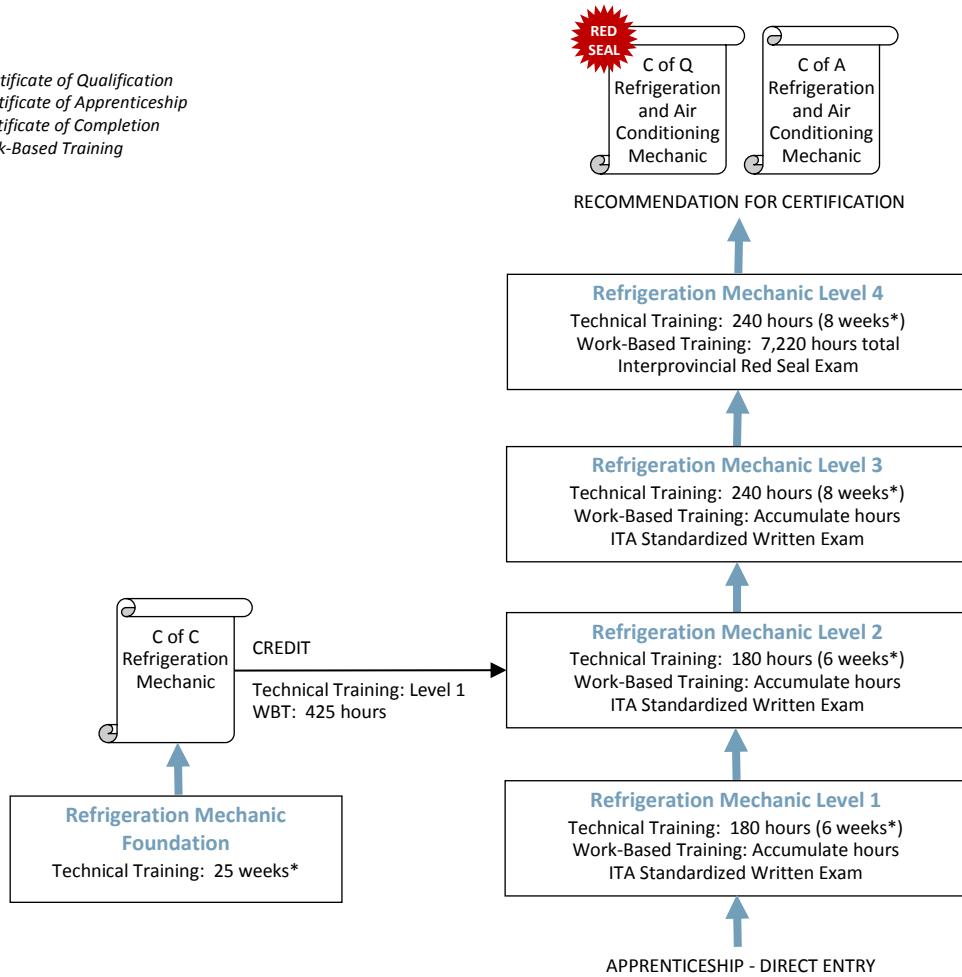
Individuals who wish to begin an apprenticeship in this program must register with ITA along with their sponsor. Application forms for all programs are available from the ITA website. Online registration is also available for most programs through the ITA website.

Those who wish to challenge the Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) certification must complete the Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) Challenge Application and submit it to ITA. Challenge applications are assessed for proof of workplace hours and scope of experience prior to acceptance of the individual into the Challenge pathway.

### Apprenticeship Pathway

This graphic provides an overview of the Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) apprenticeship pathway.

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



*\*Suggested duration based on 30-hour week*

**CROSS-PROGRAM CREDITS**

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

**C of Q Domestic / Commercial Gasfitter (Class B)**  
Technical Training: None  
Work-Based Training: 1,800 hours

**C of Q Industrial Electrician**  
Technical Training: None  
Work-Based Training: 900 hours

**C of Q Construction Electrician**  
Technical Training: None  
Work-Based Training: 900 hours

### Apprenticeship Program Standards

<b>Credentials Awarded</b>	<ul style="list-style-type: none"> <li>▪ Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) – Certificate of Qualification with Interprovincial Red Seal endorsement</li> <li>▪ Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) – Certificate of Apprenticeship</li> </ul>
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<b>ITA Registration Prerequisites</b>	<ul style="list-style-type: none"> <li>▪ Agreement signed by the employer to sponsor the apprentice</li> </ul>
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**Completion Requirements** Certification as a Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) 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 (or 6 weeks*) and ITA standardized written exam</li> <li>▪ Level 2: 180 hours (or 6 weeks*) and ITA standardized written exam</li> <li>▪ Level 3: 240 hours (or 8 weeks*) and ITA standardized written exam</li> <li>▪ Level 4: 240 hours (or 8 weeks*)</li> </ul>
Interprovincial Red Seal Exam	<ul style="list-style-type: none"> <li>▪ Minimum 70%</li> </ul>
Work-Based Training	<ul style="list-style-type: none"> <li>▪ 7,220 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>

*(\*Assuming 30 hours in school per week)*

**Program Duration** Duration varies depending on how training is delivered, but the program generally takes 5 years to complete.

The technical training requirement is typically met through block-release training (full-time, at school) delivered by an ITA-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:

- Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) – Certificate of Qualification
- Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) - Interprovincial Red Seal endorsement
- ITA-issued letter authorizing supervision and sign-off of apprentices in this occupation

**Challenging a Level** The following levels of technical training can be challenged for advanced placement in this program:

Level	Prerequisites
<ul style="list-style-type: none"> <li>▪ Level 1</li> </ul>	<ul style="list-style-type: none"> <li>▪ N/A</li> </ul>
<ul style="list-style-type: none"> <li>▪ Level 2</li> </ul>	<ul style="list-style-type: none"> <li>▪ N/A</li> </ul>



**Apprenticeship Program Standards**

**Cross-Program Credits**

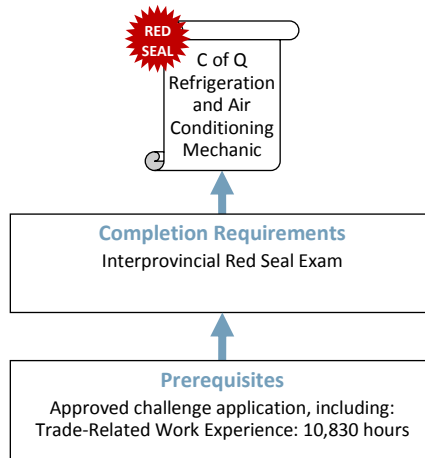
Individuals who hold the credentials listed below are entitled to receive partial credit toward the completion requirements of this program

<b>Credential</b>	<b>Credit(s) Granted</b>
Domestic/Commercial Gasfitter (Class B) - Certificate of Qualification	<ul style="list-style-type: none"> <li>▪ Work-Based Training: 1,800 hours</li> </ul>
Construction Electrician - Certificate of Qualification	<ul style="list-style-type: none"> <li>▪ Work-Based Training: 900 hours</li> </ul>
Industrial Electrician - Certificate of Qualification	<ul style="list-style-type: none"> <li>▪ Work-Based Training: 900 hours</li> </ul>

### Challenge Pathway

This graphic provides an overview of the Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) 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 Refrigeration and Mechanical Technician MT #301 / MT #641, QL5 or higher	Work Experience: 10,830 hours
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### Challenge Program Standards

**Credentials Awarded**

Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) – Certificate of Qualification with Interprovincial Red Seal endorsement

**ITA Registration Prerequisites**

An approved Challenge Application, which includes:

- 10,830 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 the prerequisites for challenging this program:

<b>Credential</b>	<b>Credit(s) Granted</b>
Military certificate in Refrigeration and Mechanical Technician MT #301 / MT #641, QL5 or higher	<ul style="list-style-type: none"> <li>▪ Work Experience: 10,830 hours</li> <li>▪ Approved Challenge Application</li> </ul>

**Completion Requirements**

Certification as a Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) is awarded upon successful completion of:

<b>Requirement</b>	<b>Level of Achievement Required</b>
Interprovincial Red Seal Exam	<ul style="list-style-type: none"> <li>▪ Minimum 70%</li> </ul>

**Foundation Program**

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

**Foundation Program Standards**

<b>Credentials Awarded</b>	Refrigeration Mechanic – Certificate of Completion				
<b>Enrollment Prerequisites</b>	Contact training provider. Prerequisites vary between training institutions				
<b>Completion Requirements</b>	A Certificate of Completion in this program is awarded upon successful completion of: <table border="1" style="margin-left: 20px; width: 100%;"> <thead> <tr> <th style="text-align: left;">Requirement</th> <th style="text-align: left;">Level of Achievement Required</th> </tr> </thead> <tbody> <tr> <td>Technical Training</td> <td> <ul style="list-style-type: none"> <li>▪ Minimum 70%</li> </ul> </td> </tr> </tbody> </table>	Requirement	Level of Achievement Required	Technical Training	<ul style="list-style-type: none"> <li>▪ Minimum 70%</li> </ul>
Requirement	Level of Achievement Required				
Technical Training	<ul style="list-style-type: none"> <li>▪ Minimum 70%</li> </ul>				
<b>Program Duration</b>	Duration varies depending on how training is delivered, but program generally takes 25 weeks to complete, assuming 30 hours in school per week				
<b>Credit toward Apprenticeship</b>	Individuals who complete the Refrigeration Mechanic Foundation program will receive the following credit toward completion of the Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) apprenticeship program: <ul style="list-style-type: none"> <li>▪ Technical Training: Level 1</li> <li>▪ Work-Based Training: 425 hours</li> </ul>				

## Supporting Documents

Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) Program Outline (2011) – Defines the full scope of knowledge and skills required to competently perform the occupation in BC. Available from the ITA website.

Refrigeration and Air Conditioning Mechanic (Refrigeration Mechanic) National Occupational Analysis (2009) – 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).

## Contacts

The **Industry Training Authority** (ITA) manages B.C.'s industry training and apprenticeship programs. Contact ITA Customer service if you have any questions regarding registration, examinations or certification for this program.

Telephone: 778-328-8700  
Toll Free (within BC): 1-866-660-6011  
Website: [www.itabc.ca](http://www.itabc.ca)

Fax: 778-328-8701  
Email: [customerservice@itabc.ca](mailto:customerservice@itabc.ca)

## Revision History

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

Program Standards Approved: March 2002  
Updated: January 2006  
Updated: January 2009  
Updated: February 2011  
Updated: August 2013

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