



STEAMFITTER/PIPEFITTER

Occupation Description

Steamfitter/Pipefitters lay out, assemble, fabricate, maintain, repair and service equipment and piping systems carrying water, steam, fluids, gases, chemicals and fuel in various systems such as heating, cooling, lubricating and process piping systems. They read and interpret drawings, specifications and codes to determine layout, type and size of pipe, and tools to use. They measure, cut, thread, groove, bend, solder, braze, assemble and install metal, plastic and fiberglass pipes, valves and fittings. As well, they must be able to join and secure pipe sections of related equipment. They check systems for leaks. Steamfitters/Pipefitters also do general maintenance work including replacement of worn components.

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 Steamfitter/Pipefitter by completing the Steamfitter/Pipefitter 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 Youth Work in Trades program or the Youth Train in Trades. 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 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 12 diploma or equivalent including:
 - English 12,
 - Algebra 11 or Trade Mathematics 11 and
 - Physics 11 or Science and Technology 11

ITA Registration

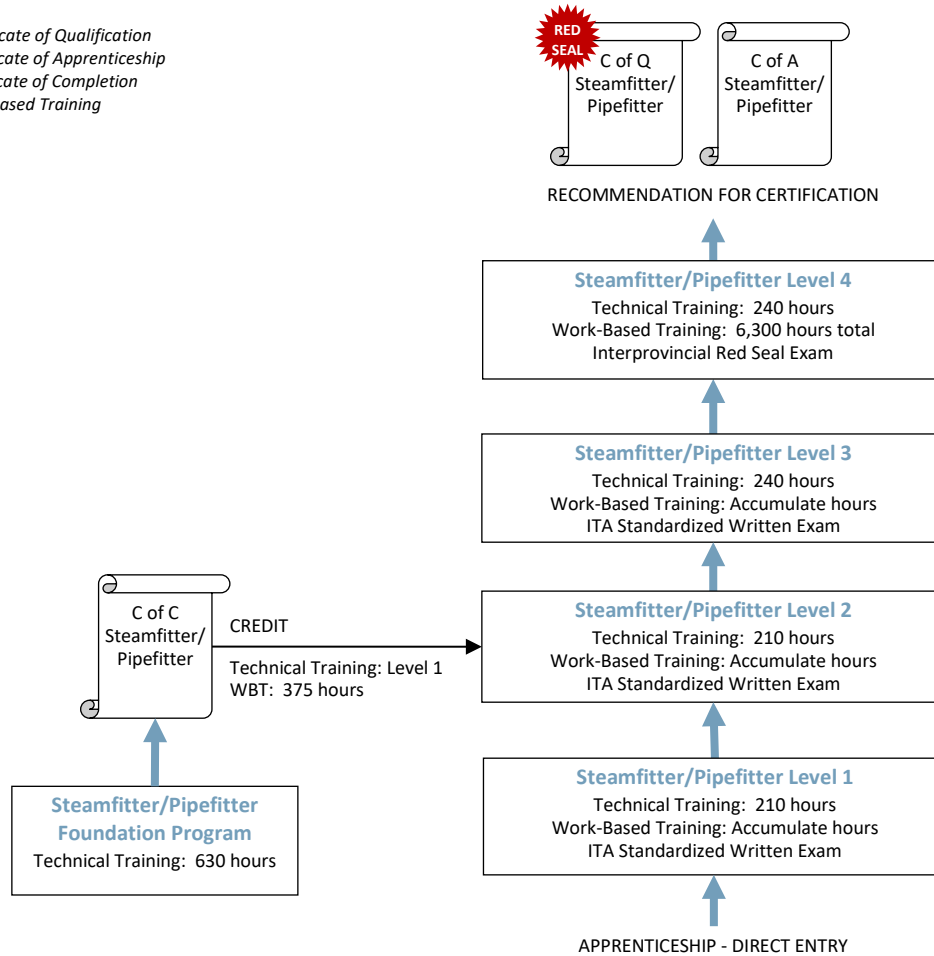
Individuals who wish to begin an apprenticeship in this program must register with ITA along with their sponsor. Application forms for all programs are available from the ITA website. Online registration is also available for most programs through the ITA website.

Those who wish to challenge the Steamfitter/Pipefitter certification must complete the Steamfitter/Pipefitter 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

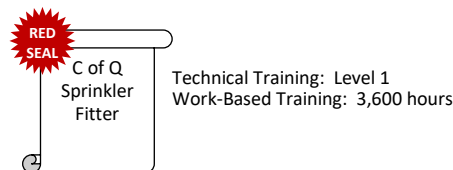
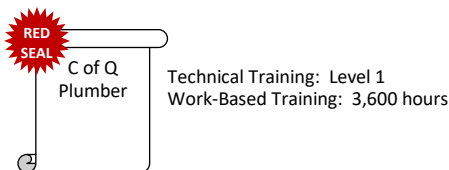
This graphic provides an overview of the Steamfitter/Pipefitter apprenticeship pathway.

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	<ul style="list-style-type: none"> ▪ Steamfitter/Pipefitter – Certificate of Qualification with Interprovincial Red Seal endorsement ▪ Steamfitter/Pipefitter – Certificate of Apprenticeship 										
ITA Registration Prerequisites	<ul style="list-style-type: none"> ▪ Agreement signed by the employer to sponsor the apprentice 										
Completion Requirements	<p>Certification as a Steamfitter/Pipefitter is awarded upon successful completion of:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <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> Minimum 70% in each level of technical training: <ul style="list-style-type: none"> ▪ Level 1: 210 hours and ITA standardized written exam ▪ Level 2: 210 hours and ITA standardized written exam ▪ Level 3: 240 hours and ITA standardized written exam ▪ Level 4: 240 hours </td> </tr> <tr> <td>Interprovincial Red Seal Exam</td> <td> <ul style="list-style-type: none"> ▪ Minimum 70% </td> </tr> <tr> <td>Work-Based Training</td> <td> <ul style="list-style-type: none"> ▪ 6,300 hours </td> </tr> <tr> <td>Recommendation for Certification</td> <td> <ul style="list-style-type: none"> ▪ Recommendation for certification signed by the Sponsor and an individual holding credentials eligible for sign-off authority </td> </tr> </tbody> </table>	Requirement	Level of Achievement Required	Technical Training	Minimum 70% in each level of technical training: <ul style="list-style-type: none"> ▪ Level 1: 210 hours and ITA standardized written exam ▪ Level 2: 210 hours and ITA standardized written exam ▪ Level 3: 240 hours and ITA standardized written exam ▪ Level 4: 240 hours 	Interprovincial Red Seal Exam	<ul style="list-style-type: none"> ▪ Minimum 70% 	Work-Based Training	<ul style="list-style-type: none"> ▪ 6,300 hours 	Recommendation for Certification	<ul style="list-style-type: none"> ▪ Recommendation for certification signed by the Sponsor and an individual holding credentials eligible for sign-off authority
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Interprovincial Red Seal Exam	<ul style="list-style-type: none"> ▪ Minimum 70% 										
Work-Based Training	<ul style="list-style-type: none"> ▪ 6,300 hours 										
Recommendation for Certification	<ul style="list-style-type: none"> ▪ Recommendation for certification signed by the Sponsor and an individual holding credentials eligible for sign-off authority 										
Program Duration	<p>Duration varies depending on how training is delivered, but the program generally takes 4 years to complete.</p> <p>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.</p>										
Sign-off Authority	<p>Credentials eligible to sign-off on the Recommendation for Certification:</p> <ul style="list-style-type: none"> ▪ Steamfitter/Pipefitter – Certificate of Qualification ▪ Steamfitter/Pipefitter – Interprovincial Red Seal endorsement ▪ ITA-issued letter authorizing supervision and sign-off of apprentices in this occupation 										
Challenging a Level	<p>The following levels of technical training can be challenged for advanced placement in this program:</p> <p>Level</p> <ul style="list-style-type: none"> ▪ Level 1 ▪ Level 2 – <i>(when implemented in Fall 2020)</i> ▪ Level 3 – <i>(when implemented in Fall 2021)</i> 										



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

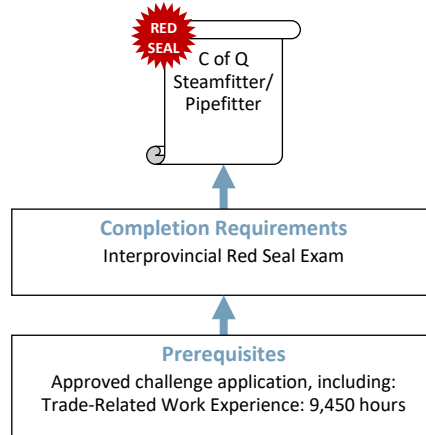
Credential	Credit(s) Granted
Plumber – Certificate of Qualification with Interprovincial Red Seal endorsement	<ul style="list-style-type: none">▪ Technical Training: Level 1▪ Work-Based Training: 3,600 hours
Sprinkler Fitter – Certificate of Qualification with Interprovincial Red Seal endorsement	<ul style="list-style-type: none">▪ Technical Training: Level 1▪ Work-Based Training: 3,600 hours



Challenge Pathway

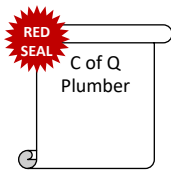
This graphic provides an overview of the Steamfitter/Pipefitter challenge pathway.

C of Q = Certificate of Qualification

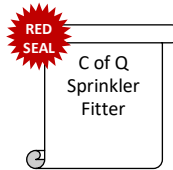


CREDIT FOR PRIOR LEARNING

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



Work experience: 4,500 hours



Work experience: 4,500 hours



Challenge Program Standards

Credentials Awarded	Steamfitter/Pipefitter – Certificate of Qualification with Interprovincial Red Seal Endorsement						
ITA Registration Prerequisites	An approved Challenge Application, which includes: <ul style="list-style-type: none"> ▪ 9,450 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.						
	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 50%;">Credential</th> <th style="text-align: left; width: 50%;">Credit(s) Granted</th> </tr> </thead> <tbody> <tr> <td>Plumber – Certificate of Qualification with Interprovincial Red Seal endorsement</td> <td> <ul style="list-style-type: none"> ▪ Work Experience: 4,500 hours </td> </tr> <tr> <td>Sprinkler Fitter – Certificate of Qualification with Interprovincial Red Seal endorsement</td> <td> <ul style="list-style-type: none"> ▪ Work Experience: 4,500 hours </td> </tr> </tbody> </table>	Credential	Credit(s) Granted	Plumber – Certificate of Qualification with Interprovincial Red Seal endorsement	<ul style="list-style-type: none"> ▪ Work Experience: 4,500 hours 	Sprinkler Fitter – Certificate of Qualification with Interprovincial Red Seal endorsement	<ul style="list-style-type: none"> ▪ Work Experience: 4,500 hours
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Foundation Program

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

Foundation Program Standards

Credentials Awarded	Steamfitter/Pipefitter – 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:				
	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left; width: 50%;">Requirement</th> <th style="text-align: left; width: 50%;">Level of Achievement Required</th> </tr> </thead> <tbody> <tr> <td>Technical Training</td> <td> <ul style="list-style-type: none"> ▪ Minimum 70% </td> </tr> </tbody> </table>	Requirement	Level of Achievement Required	Technical Training	<ul style="list-style-type: none"> ▪ Minimum 70%
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Technical Training	<ul style="list-style-type: none"> ▪ Minimum 70% 				
Program Duration	Duration varies depending on how training is delivered, but the program generally takes 630 hours complete.				
Credit toward Apprenticeship	Individuals who complete the Steamfitter/Pipefitter Foundation program will receive the following credit toward completion of the Red Seal Steamfitter/Pipefitter apprenticeship program: <ul style="list-style-type: none"> ▪ Technical Training: Level 1 ▪ Work-Based Training: 375 hours 				



Supporting Documents

Steamfitter/Pipefitter Program Outline (2017) – Defines the full scope of knowledge and skills required to competently perform the occupation in BC. Available from the ITA website.

Steamfitter/Pipefitter Red Seal Occupational Standard (2015) – 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.

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

Fax: 778-328-8701
Email: 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: October 2009
Updated: February 2016
Updated: November 2017
Updated: December 2018

Program Profiles are updated regularly. Visit www.itabc.ca for the most current version.