



## **STEAMFITTER/PIPEFITTER**

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### **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 SkilledTradesBC 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

### **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 Steamfitter/Pipefitter certification must complete the Steamfitter/Pipefitter 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**

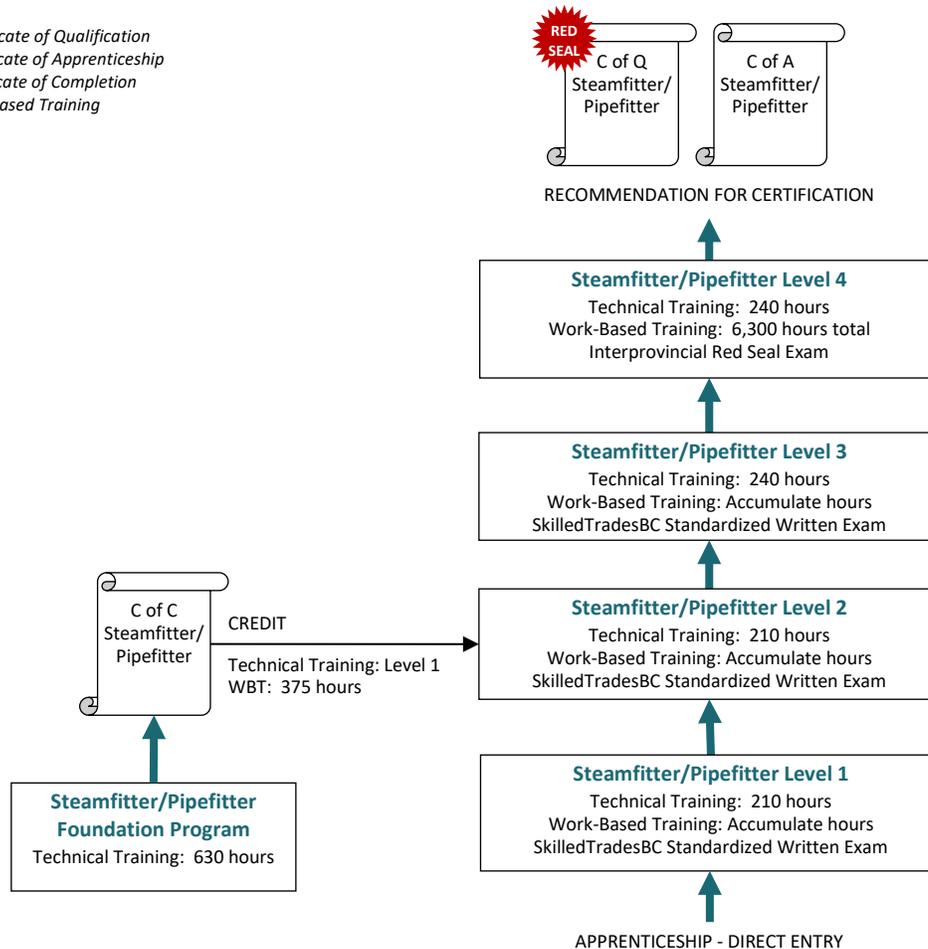
Trade workers in a trade designated as Skilled Trades Certification (STC) are required to hold certification in the trade, be registered as an apprentice, or have an approved Temporary Authorization. More information can be found at [www.skilledtradesbc.ca](http://www.skilledtradesbc.ca)



**Apprenticeship Pathway**

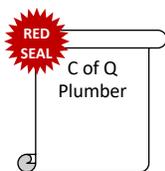
This graphic provides an overview of the Steamfitter/Pipefitter apprenticeship pathway.

*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*



Technical Training: Level 1  
Work-Based Training: 3,600 hours\*



Technical Training: Level 1  
Work-Based Training: 3,600 hours\*

*\*Individuals who are holders of more than one of these credentials will only be awarded credit for 3,600 hours total*



**Apprenticeship Program Standards**

<b>Credentials Awarded</b>	<ul style="list-style-type: none"> <li>▪ Steamfitter/Pipefitter – Certificate of Qualification with Interprovincial Red Seal endorsement</li> <li>▪ Steamfitter/Pipefitter – Certificate of Apprenticeship</li> </ul>
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<b>SkilledTradesBC 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 Steamfitter/Pipefitter is awarded upon successful completion of:

<b>Requirement</b>	<b>Level of Achievement Required</b>
Technical Training	Minimum 70% in each level of technical training: <ul style="list-style-type: none"> <li>▪ Level 1: 210 hours and SkilledTradesBC standardized written exam</li> <li>▪ Level 2: 210 hours and SkilledTradesBC standardized written exam</li> <li>▪ Level 3: 240 hours and SkilledTradesBC standardized written exam</li> <li>▪ Level 4: 240 hours</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>▪ 6,300 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>

<b>Program Duration</b>	<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 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.</p>
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<b>Sign-off Authority</b>	<p>Credentials eligible to sign-off on the Recommendation for Certification:</p> <ul style="list-style-type: none"> <li>▪ Steamfitter/Pipefitter – Certificate of Qualification</li> <li>▪ Steamfitter/Pipefitter – Interprovincial Red Seal endorsement</li> <li>▪ Uncertified Experienced Worker with a valid and active Temporary Authorization issued from SkilledTradesBC</li> </ul>
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**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**

- Level 1
- Level 2
- Level 3



**Apprenticeship Program Standards**

**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 4,725 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

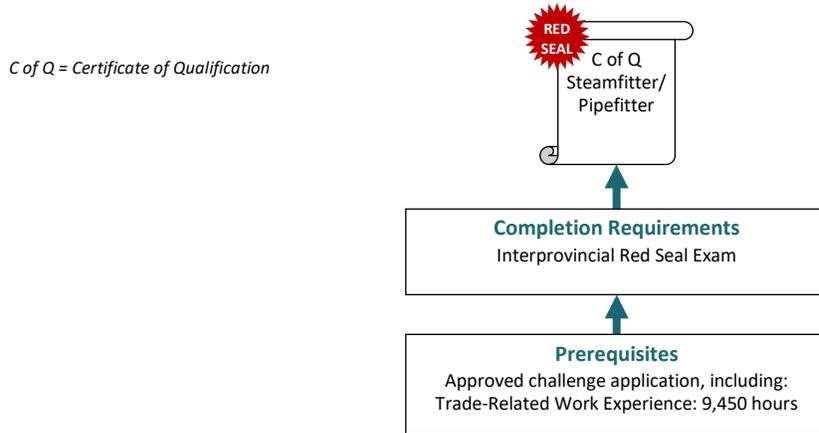
<b>Credential</b>	<b>Credit(s) Granted</b>
Plumber – Certificate of Qualification with Interprovincial Red Seal endorsement	<ul style="list-style-type: none"> <li>▪ Technical Training: Level 1</li> <li>▪ Work-Based Training: 3,600 hours*</li> </ul>
Sprinkler Fitter – Certificate of Qualification with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

*\*Individuals who are holders of more than one of these credentials will only be awarded credit for 3,600 hours total*



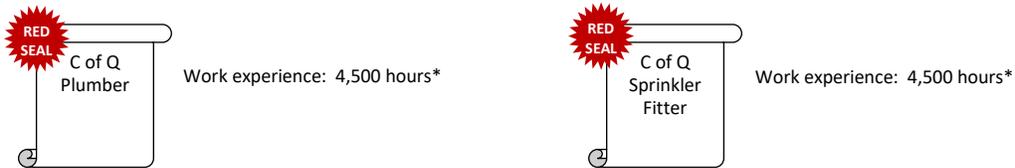
**Challenge Pathway**

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



**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*



*\*Individuals who are holders of more than one of these credentials will only be awarded credit for 4,500 hours total*



### Challenge Program Standards

<b>Credentials Awarded</b>	Steamfitter/Pipefitter – Certificate of Qualification with Interprovincial Red Seal Endorsement						
<b>SkilledTradesBC Registration Prerequisites</b>	An approved Challenge Application, which includes: <ul style="list-style-type: none"> <li>9,450 documented hours of directly related experience working in the occupation</li> </ul>						
<b>Credit for Prior Learning</b>	Individuals who hold the credentials listed below are considered to have met or partially met the prerequisites for challenging this program. <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="text-align: left;">Credential</th> <th style="text-align: left;">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"> <li>Work Experience: 4,500 hours*</li> </ul> </td> </tr> <tr> <td>Sprinkler Fitter – Certificate of Qualification with Interprovincial Red Seal endorsement</td> <td> <ul style="list-style-type: none"> <li>Work Experience: 4,500 hours*</li> </ul> </td> </tr> </tbody> </table>	Credential	Credit(s) Granted	Plumber – Certificate of Qualification with Interprovincial Red Seal endorsement	<ul style="list-style-type: none"> <li>Work Experience: 4,500 hours*</li> </ul>	Sprinkler Fitter – Certificate of Qualification with Interprovincial Red Seal endorsement	<ul style="list-style-type: none"> <li>Work Experience: 4,500 hours*</li> </ul>
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<b>Completion Requirements</b>	Certification as a Steamfitter/Pipefitter is awarded upon successful completion of: <table border="1" style="width: 100%; margin-top: 10px;"> <thead> <tr> <th style="text-align: left;">Requirement</th> <th style="text-align: left;">Level of Achievement Required</th> </tr> </thead> <tbody> <tr> <td>Interprovincial Red Seal Exam</td> <td> <ul style="list-style-type: none"> <li>Minimum 70%</li> </ul> </td> </tr> </tbody> </table>	Requirement	Level of Achievement Required	Interprovincial Red Seal Exam	<ul style="list-style-type: none"> <li>Minimum 70%</li> </ul>		
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*\*Individuals who are holders of more than one of these credentials will only be awarded credit for 4,500 hours total*

### 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

<b>Credentials Awarded</b>	Steamfitter/Pipefitter – 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="width: 100%; margin-top: 10px;"> <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>
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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 the program generally takes 630 hours complete.				
<b>Credit toward Apprenticeship</b>	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"> <li>Technical Training: Level 1</li> <li>Work-Based Training: 375 hours</li> </ul>				



## 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 SkilledTradesBC 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](http://www.red-seal.ca).

## 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:	March 2002
Updated:	January 2006
Updated:	October 2009
Updated:	February 2016
Updated:	November 2017
Updated:	December 2018

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