



## **MACHINIST**

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### **Occupation Description**

A Machinist is someone who turns blocks of metal into complex, intricate metal parts for other products. They fit and assemble metal parts and sub-assemblies, ensuring the parts in these products meet exacting standards in size, strength and hardness. A Machinist sets up and operates all machine tools such as Lathes, Milling Machines Saws, Grinding Machines, Drilling and Boring Machines, Shapers, Planers, Precision Measuring tools, Hand and Power tools, and the related attachments and accessories, including C.N.C. machining, selection, use and maintenance of cutting tools.

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 Machinist by completing the Machinist 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 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
- Grade 12 preferred

### **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.

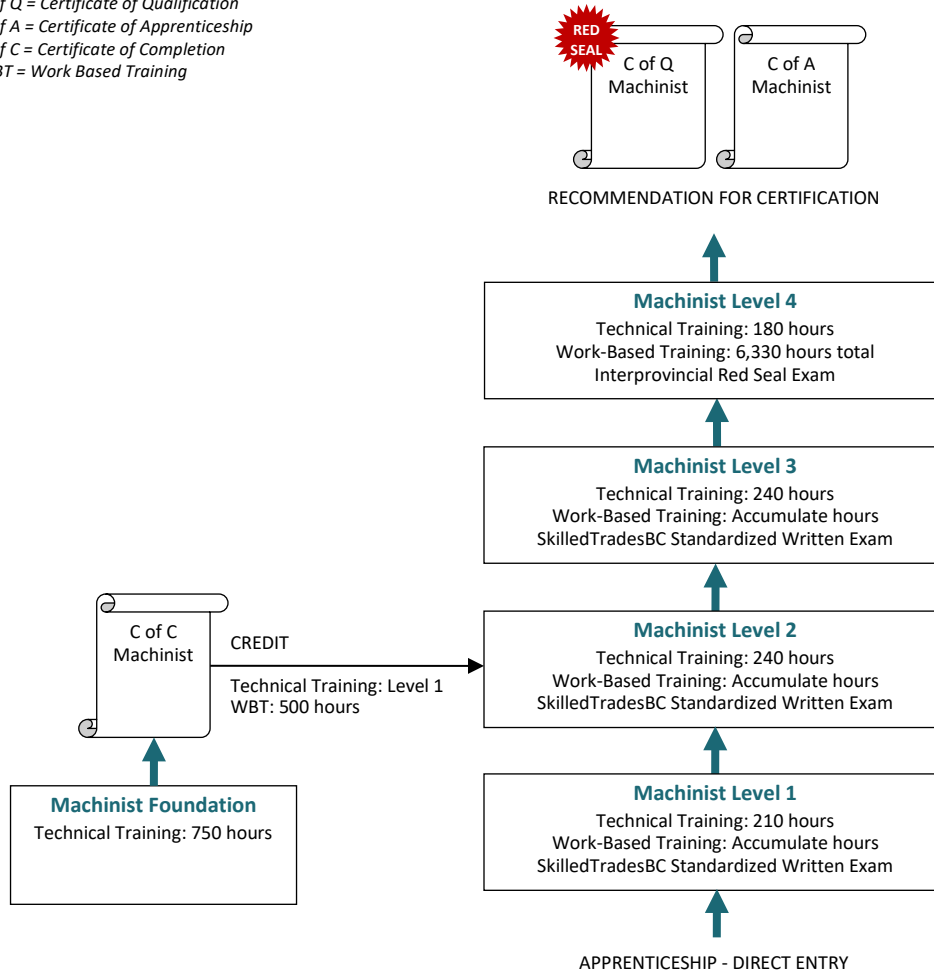
Those who wish to challenge the Machinist certification must complete the Machinist Challenge Application and submit it to SkilledTradesBC. Challenge applications are assessed for proof of workplace hours and scope of experience prior to acceptance of the individual into the Challenge pathway.



**Apprenticeship Pathway**

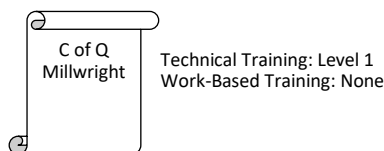
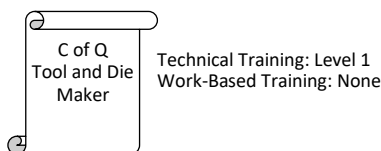
This graphic provides an overview of the Machinist apprenticeship pathway.

*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**

<b>Credentials Awarded</b>	<ul style="list-style-type: none"> <li>▪ Machinist – Certificate of Qualification with Interprovincial Red Seal endorsement</li> <li>▪ Machinist – Certificate of Apprenticeship</li> </ul>										
<b>SkilledTradesBC Registration Prerequisites</b>	<ul style="list-style-type: none"> <li>▪ Agreement signed by the employer to sponsor the apprentice</li> </ul>										
<b>Completion Requirements</b>	<p>Certification as a Machinist is awarded upon successful completion of:</p> <table border="1"> <thead> <tr> <th><b>Requirement</b></th> <th><b>Level of Achievement Required</b></th> </tr> </thead> <tbody> <tr> <td>Technical Training</td> <td>                     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: 240 hours and SkilledTradesBC standardized written exam</li> <li>▪ Level 3: 240 hours and SkilledTradesBC standardized written exam</li> <li>▪ Level 4: 180 hours</li> </ul> </td> </tr> <tr> <td>Interprovincial Red Seal Exam</td> <td> <ul style="list-style-type: none"> <li>▪ Minimum 70%</li> </ul> </td> </tr> <tr> <td>Work-Based Training</td> <td> <ul style="list-style-type: none"> <li>▪ 6,330 hours</li> </ul> </td> </tr> <tr> <td>Recommendation for Certification</td> <td> <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> </td> </tr> </tbody> </table>	<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: 240 hours and SkilledTradesBC standardized written exam</li> <li>▪ Level 3: 240 hours and SkilledTradesBC standardized written exam</li> <li>▪ Level 4: 180 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>▪ 6,330 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>
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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>										
<b>Sign-off Authority</b>	<p>Credentials eligible to sign-off on the Recommendation for Certification:</p> <ul style="list-style-type: none"> <li>▪ Machinist – Certificate of Qualification</li> <li>▪ Machinist – Interprovincial Red Seal endorsement</li> <li>▪ Tool and Die Maker – Certificate of Qualification</li> <li>▪ Tool and Die Maker – Interprovincial Red Seal endorsement</li> <li>▪ SkilledTradesBC-issued letter authorizing supervision and sign-off of apprentices in this occupation</li> </ul>										
<b>Challenging a Level</b>	<p>The following levels of technical training can be challenged for advanced placement in this program:</p> <ul style="list-style-type: none"> <li>▪ Level 1</li> <li>▪ Level 2</li> <li>▪ Level 3</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

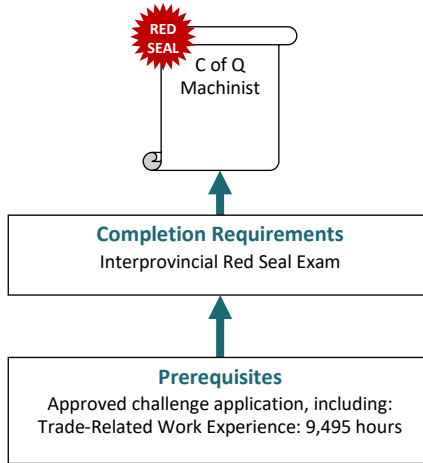
<b>Credential</b>	<b>Credit(s) Granted</b>
Tool and Die Maker – Certificate of Qualification	<ul style="list-style-type: none"> <li>▪ Technical Training: Level 1</li> <li>▪ Work-Based Training: None</li> </ul>
Millwright – Certificate of Qualification	<ul style="list-style-type: none"> <li>▪ Technical Training: Level 1</li> <li>▪ Work-Based Training: None</li> </ul>



**Challenge Pathway**

This graphic provides an overview of the Machinist 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*

Military certificate in Marine Engineer MT #367 / Marine Engineering Technician MT #313, QL5 or higher	Work Experience: 9,495 hours
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**Challenge Program Standards**

**Credentials Awarded**

Machinist – Certificate of Qualification with Red Seal endorsement

**SkilledTradesBC  
Registration Prerequisites**

An approved Challenge Application, which includes:

- 9,495 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 Marine Engineer MT #367 / Marine Engineering Technician MT #313, QL5 or higher	<ul style="list-style-type: none"> <li>▪ Work Experience: 9,495 hours</li> <li>▪ Approved Challenge Application</li> </ul>

**Completion Requirements**

Certification as a Machinist is awarded upon successful completion of:

Requirement	Level of Achievement Required
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 Machinist Foundation program fits into apprenticeship.

**Foundation Program Standards**

<b>Credentials Awarded</b>	Machinist – 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:				
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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 program generally takes 750 hours to complete.				
<b>Credit toward Apprenticeship</b>	<p>Individuals who complete the Machinist Foundation program will receive the following credit toward completion of the Red Seal (Machinist) apprenticeship program:</p> <ul style="list-style-type: none"> <li>Technical Training: Level 1</li> <li>Work-Based Training: 500 hours</li> </ul>				



## Supporting Documents

Machinist Program Outline (2019) – Defines the full scope of knowledge and skills required to competently perform the occupation in BC. Available from the SkilledTradesBC website.

Machinist Red Seal Occupational Standard (2017) – 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:	September 2009
Updated:	February 2010
Updated:	September 2012
Updated:	June 2014
Updated:	February 2019

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