



MEFA1 – Metal Fabricator (Fitter) Apprenticeship Level 1

Trades

Effective Term & Year: Winter 2027

Program Outline Review Date: 2032-09-01

Program Area: Trades Apprenticeship Training

Description:

This 7-week program covers the required learning outcomes for level 1 of a 3 year Metal Fabricator (Fitter) Apprenticeship program. The program includes classroom, theory and practical hands-on experience in a shop setting. Metal Fabricators build, assemble, and prepare products made of steel or other metals for use in a wide variety of manufacturing and construction industries.

Credentials Granted:

Upon successful completion of the 7-week Level 1 Metal Fabricator (Fitter) Apprenticeship program, students receive:

- Level 1 technical training credit for the Metal Fabricator (Fitter) Apprenticeship program from SkilledTradesBC

Delivery Methods: On-Campus (Face-to-Face)

Program Duration: 7 weeks

Instructional Activity and Hours:

Activity	Hours
Instructional Hours (hrs/wk)	28 hrs/wk
Directed Studies (hrs/wk)	2 hrs/wk
Total (hrs/wk)	30 hrs/wk

Total Program Hours

210 Hours

Content Weighting:

Activity	Percentage
Theory	60%
Practical Skills	40%

Admission Requirements:

Sponsored Metal Fabricator (Fitter) apprentice.

Highly Recommended Admission Prerequisites:

The following education is highly recommended for student success within the program:

- Minimum of Grade 10 (or equivalent from a recognized post-secondary institution) completion.
- Either English Studies 12, English First Peoples 12, ENGL 090, or equivalent (refer to Course Equivalency information on the College Website)
- Workplace Mathematics 11 or equivalent
- Secondary school graduation or equivalent, or completion of a College of the Rockies assessment to an acceptable level

Prior Learning and Recognition:

Credit cannot be awarded for this program through Prior Learning Assessment and Recognition.

Program Transfer Credit:

For information about block transfer agreements between programs in British Columbia, Alberta, and elsewhere, please visit <http://www.cotr.bc.ca/transfer>.

To minimize transfer issues, check with an academic advisor at the institution that will receive the transfer credits.

Textbooks and Required Resources:

Textbook selection varies by instructor and may change from year to year. At the Program Outline Effective Date the following textbooks were in use (most current edition):

BCIT Steel Fabrication Level 1 Learning Guides

IPT's Metal Trades Handbook

Program Competencies and Technical Training Content:

Upon the successful completion of this program, students will be able to:

MEFA 101 Perform Safety-Related Functions

- Maintain safe work environment

MEFA 102 Use Tools and Equipment

- Use hand, power, layout and measuring tools and equipment
- Use stationary equipment
- Use thermal cutting and welding equipment
- Use access equipment

MEFA 103 Interpret Plans, Drawings and Specifications

- Interpret blueprints
- Interpret structural steel drawings

MEFA 104 Perform Quality Control

- Perform Inspection
- Apply principles of metallurgy
- Control distortion

MEFA 105 Handle Materials

- Calculate mass for structural steel
- Apply rigging practices
- Operate material handling equipment

MEFA 106 Perform Trade Math and Layout

- Perform line development
- Calculate bending allowances and stretch outs
- Calculate diagonals, volume, mass and capacity

MEFA 107 Form Materials

- Fabricate plate

MEFA 108 Fabricate Components

- Construct templates and jigs
- Fabricate structural components

MEFA 109 Perform Welding Activities

- Apply weld symbols
- Use welding processes

Evaluation and Assessment:

METAL FABRICATOR (FITTER) APPRENTICESHIP LEVEL 1

COTR COURSE	SUBJECT COMPETENCIES	THEORY WEIGHTING	PRACTICAL WEIGHTING
MEFA 101	Perform Safety Related Functions	3%	0%
MEFA 102	Use Tools and Equipment	15%	20%
MEFA 103	Interpret Plans, Drawings and Specifications	20%	0%
MEFA 104	Perform Quality Control	5%	0%
MEFA 105	Handle Materials	3%	10%
MEFA 106	Perform Trade Math and Layout	20%	0%
MEFA 107	Form Materials	7%	40%
MEFA 108	Fabricate Components	20%	30%
MEFA 109	Perform Welding Activities	7%	0%
Total		100%	100%
In-school theory & practical subject competency weighting		60%	40%
Final in-school percentage score		IN-SCHOOL %	
In-school Percentage Score			
Combined theory and practical subject competency multiplied by		80%	
Standard Level Exam Percentage Score		20%	
The exam score is multiplied by			
Final Percentage Score		FINAL%	

Pass Requirements:

- Successful completion of the in-school training is defined as a final overall minimum of 70% to meet SkilledTradesBC standards.
- Refer to Policy 2.6.2 Vocational Student Withdrawals as a Result of Absence.

Students must provide their own:

Students must provide their own:

- steel-toed leather work boots
- safety glasses
- welding gloves
- flame retardant work clothes (cotton or wool)
- leather welding jacket
- welding helmet (#11 lens)
- welding goggles (#5 lens)
- reference manuals
- Sharp D.A.L. Scientific calculator
- 4" to 6" Compass
- Geometry set
- personal half mask respirator
- P100 particulate filters

Academic Policies:

College of the Rockies policies related to courses can be found at <https://cotr.bc.ca/about-us/college-policies/> and include the following:

- Policy 2.1.4 Course Audit
- Policy 2.4.1 Credential Framework
- Policy 2.4.3 Students with Documented Disabilities
- Policy 2.4.4 Student Rights, Responsibilities and Conduct
- Policy 2.4.8 Academic Performance
- Policy 2.4.9 Student Feedback and Concerns
- Policy 2.4.11 Storage of Academic Works
- Policy 2.5.3 Student Appeal
- Policy 2.5.5 Prior Learning Assessment and Recognition (PLAR)

Program Grade

COM	NCG
Completed to the defined standard – 70% or greater	No Credit Granted – less than 70%

Program Changes:

Information contained in program outlines is correct at the time of publication. Content of the program is revised on an ongoing basis to ensure relevance to changing educational,

employment, and marketing needs. The instructor endeavours to provide notice of changes to students as soon as possible. The instructor reserves the right to add material to programs.

Industry Training:

The program competencies and technical training content delivered in this program follow the SkilledTradesBC Program Outline for this trade.

Safety Catalog:

WorkSafeBC regulations apply to all trades programs. Students are expected to follow all safe work practices and have high regard for the safety of others as well as of themselves. Students are responsible to wear personal protective equipment (PPE) as directed. At a minimum, students must provide and wear approved safety footwear and eyewear at all times in the shop. Additional PPE may be required for specific tasks. Students are expected to wear clothing suitable for working safely in the shop.