



INMECF – Industrial Mechanic (Millwright) Foundation

Trades

Effective Term & Year: Fall 2026

Program Outline Review Date: 2031-03-01

Program Area: Trades Foundation Training

Description:

This comprehensive 24-week Industrial Mechanic (Millwright) Foundation (pre-apprenticeship) program provides students the skills, knowledge and training necessary to safely understand, maintain and perform troubleshooting on equipment in the heavy industry sector and covers the program competencies for Level 1 of the four level Industrial Mechanic (Millwright) Apprenticeship program. Content covered includes using codes, regulations and standards for safety related functions, performing routine trade activities such as leveling of components and systems, use reference documentation, use mechanical drawings and specifications, performing measuring and layout of work pieces, performing cutting and welding operations with oxy-fuel and plasma arc cutting equipment and performing hoisting/lifting, moving and rigging. The program includes classroom theory, demonstrations, practical hands-on training in an industrial shop setting. Safe work habits are emphasized, reinforced and practiced throughout the program.

Credentials Granted:

Upon successful completion of the 24-week Industrial Mechanic (Millwright) Foundation program, students receive

- Level 1 Technical Training credit from SkilledTradesBC of the 4 Level Industrial Mechanic (Millwright) Apprenticeship program
- Certificate of Completion from SkilledTradesBC
- Industrial Mechanic Foundation Certificate from the College of the Rockies
- Credit for 425 work-based training hours from SkilledTradesBC

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

Program Duration: 24 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	720 Hours

Content Weighting:

Activity	Percentage
Theory	60%
Practical Skills	40%

Admission Requirements:

Minimum of Grade 10 (or equivalent from a recognized post-secondary institution) completion.

Highly Recommended Admission Prerequisites:

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

- 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 can 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 Course Outline Effective Date the following textbooks were in use (most current edition):

- Industrial Mechanic (Millwright) Foundation. COTR Custom Package. Available from the Campus store.
- Province of British Columbia. (1996). Millwright Manual of Instruction (MN1237). Crown Publications, King's Printer for British Columbia.

Please see the instructor's syllabus or check COTR's online text calculator [Textbook Calculator](#) – [Get your COTR textbook quote](#) for a complete list of the currently required textbooks.

Program Competencies and Technical Training Content:

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

IMECH 101 Perform Safety Related Functions

- Use codes, regulations and standards
- Use personal protective equipment (PPE) and safety equipment
- Maintain safe worksite
- Perform lock-out, tag-out and zero energy procedures

IMECH 102 Use Tools and Equipment

- Use hand and portable power tools
- Use shop machines
- Use access equipment

IMECH 103 Perform Routine Trade Activities

- Use mathematics and science
- Lubricate systems and components
- Perform leveling of components and systems
- Use fastening and retaining devices

- Use manufacturer, supplier and reference documentation
- Use mechanical drawings and specifications

IMECH 104 Use Communication and Mentoring Techniques

- Use communication techniques

IMECH 105 Perform Measuring and Layout of Work Piece

- Prepare work area, tools and equipment
- Layout and fabricate work piece

IMECH 106 Perform Cutting and Welding Operations

- Cut material with oxy-fuel and plasma arc cutting equipment

IMECH 107 Perform Rigging, Hoisting/Lifting and Moving

- Select and use sling and rigging attachments
- Select and use hoisting and lifting equipment
- Create a rigging plan

Evaluation and Assessment:

INDUSTRIAL MECHANIC FOUNDATION

COTR COURSE	SUBJECT COMPETENCIES	THEORY WEIGHTING	PRACTICAL WEIGHTING
IMECH 101	Perform Safety Related Functions	20%	15%
IMECH 102	Use Tools and Equipment	25%	30%
IMECH 103	Perform Routine Trade Activities	20%	25%
IMECH 104	Use Communication and Mentoring Techniques	1%	1%
IMECH 105	Perform Measuring and Layout of Work Piece	10%	9%
IMECH 106	Perform Cutting and Welding Operations	10%	10%
IMECH 107	Perform Rigging, Hoisting/Lifting and Moving	14%	10%
Total		100%	100%
In-School Theory/Practical Subject Competency Weighting		60%	40%
Final in-school percentage score			
Students must achieve a minimum 70% overall as the final in-school percentage score			
		IN-SCHOOL %	

In-school percentage score	80%
Combined theory and practical subject competency	
Final Exam	20%
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.
- Complete of all Workplace Health and Safety courses within the program.

Students must provide their own:

- Steel toed boots
- Safety glasses
- Flame resistant work clothes (Do not need to be "FR" rated)
- Pens, pencils, coloured pencils, binders
- Texas instrument TI30 calculator

Workplace Health and Safety Courses:

Workplace Hazardous Material Information System (WHMIS: PVHE-700)

Basic First Aid – (PVHE-100)

Workplace Health and Safety Courses Grade Scheme:

COM	NCG
Completed to the minimum defined standard	No credit granted – less than minimum defined standard

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.