INMEC1 – Industrial Mechanic (Millwright) Apprenticeship Level 1

Trades

Effective Term & Year: Fall 2022
Program Outline Review Date: 2026-03-01

Program Area: Trades Apprenticeship Training

Description:

This program delivers the technical and practical training required for Level 1 of the 4-year Industrial Mechanic (Millwright) Apprenticeship program. Apprentices will develop the skills, knowledge and training related to safe and effective work practices, using hand tools, measuring and layout of equipment, using fixed shop machines and equipment and using mobile access equipment. Apprentices will describe welding practices and use oxy-fuel cutting, welding and heating equipment and will develop skills in shielded metal arc welding (SMAW), and using and maintaining plasma arc cutting equipment. Safe work practices related to the industrial mechanic trade are reinforced throughout the program.

Credentials Granted:

Upon successful completion of the 7 week Level 1 Industrial Mechanic (Millwright) Apprenticeship program, students receive:

- Level 1 Technical Training credit of the Industrial Mechanic (Millwright) Apprenticeship program from SkilledTradesBC

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

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	75%
Practical Skills	25%

Admission Requirements:

Sponsored Industrial Mechanic (Millwright) Apprentice.

Flexible Assessment:

Credit cannot be awarded for this program through Flexible Assessment.

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):

Fournie, Ronald A. *Millwright Manual Study Guide.* Sarnia, Ontario. 1997.

Millwright Manual. Ministry of Labour Apprenticeship Branch.

Industrial Hydraulic Manual. Eaton (Vickers). 2006.

Millwright Apprentice: Level 1: College of the Rockies Custom Package. Queen's Printer. 2014.

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 (MILLWRIGHT) LEVEL 1

COTR COURSE	SUBJECT COMPETENCIES	THEORY WEIGHTING	PRACTICAL WEIGHTING
IMECH 101	Perform Safety Related Functions	20%	0%
IMECH 102	Use Tools and Equipment	15%	0%
IMECH 103	Perform Routine Trade Activities	15%	25%
IMECH 104	Use Communication and Mentoring Techniques	5%	0%
IMECH 105	Perform Measuring and Layout of Work Piece	15%	25%
IMECH 106	Perform Cutting and Welding Operations	10%	25%
IMECH 107	Perform Rigging, Hoisting/Lifting and Moving	20%	25%
	Total	**100%**	**100%**
In-school theory / practical subject competency weighting		75%	25%
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 The exam score is multiplied by	20%
Final Percentage Score	**FINAL%**

Pass Requirements:

1. Successful completion of the in-school training is defined as a final overall minumum of 70% to meet SkilledTradesBC standards.

    - Students must maintain an acceptable level of attendance, complete all assigned projects and pass all exams to successfully complete the program.

Students must provide their own:

- flame retardant coveralls
- hard hat
- safety glasses
- steel toed boots
- pens, pencils, coloured pencils, binders

- reference manuals
- Texas Instruments T130 Calculator

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 2.4.3 Students with Documented Disabilities
- Policy 2.4.4 Student Conduct (plagiarism, other cheating, behavioral misconduct)
- Policy 2.4.8 Academic Performance
- Policy 2.5.3 Grade Appeal
- Policy 2.4.9 Student Concerns Re Faculty

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.