MECHANICAL TECHNIQUES - CONSTRUCTION BOILERMAKER APPRENTICESHIP

Program: CBAP
Credential: Ontario College Certificate
Delivery: Full-time
Work Integrated Learning: Apprentice Placement
Length: 720 hours
Effective: Winter 2026
Location: Owen Sound

Description

The Mechanical Techniques - Construction Boilermaker Apprenticeship program prepares students for a career in the rewarding and extensive boilermaker field. Boilermakers build, install and maintain boilers, tanks and vessels-huge steel containers with thick, solid walls that hold liquids and gases which must withstand a great deal of pressure for long periods of time. The Construction Boilermaker apprenticeship requires about four years including 6,600 workplace hours and 720 in-school hours of post-secondary training. One must pass an exam to receive a Certificate of Qualification with journey person status, which includes an Inter-Provincial Trade Certification (Red Seal).

Career Opportunities

Career positions may include, but are not limited to:

- Boiler fitter
- Boiler installer
- Boilermaker
- Boilermaker apprentice
- Construction boilermaker
- Industrial boilermaker
- Marine boilermaker
- Pressure vessel fabricator

Program Learning Outcomes

The graduate has reliably demonstrated the ability to:

1. complete all work in compliance with current legislation, standards, regulations and guidelines;
2. contribute to the application of quality control and quality assurance procedures to meet organizational standards and requirements;
3. comply with current health and safety legislation, as well as organizational practices and procedures;
4. support sustainability best practices in workplaces;
5. use current and emerging technologies to support the implementation of mechanical and manufacturing projects;
6. troubleshoot and solve standard mechanical problems by applying mathematics and fundamentals of mechanics;
7. contribute to the interpretation and preparation of mechanical drawings and other related technical documents;
8. perform routine technical measurements accurately using appropriate instruments and equipment;
9. assist in manufacturing, assembling, maintaining and repairing mechanical components according to required specifications;
10. select, use and maintain machinery, tools and equipment for the installation, manufacturing and repair of basic mechanical components;
11. perform welding applications to assemble, install, maintain or repair boilers, tanks and pressure vessels in accordance with manufacturer's recommendations and specifications;
12. commission boilers, tanks and pressure vessels in accordance with manufacturer's recommendations and specifications;
13. develop layouts of metal fabrication processes that inform work plans that meet industry standards.

External Recognition

Upon completing an apprenticeship, the Ministry of Labour, Training and Skills Development will issue an individual a Certificate of Apprenticeship. Upon passing the trade's certification examination and meeting the College's registration requirements, the individual may apply to become certified and registered as a journeyperson in the trade. Certain tasks that may be performed by a Construction Boilermaker legally require the individual to be certified by the Technical Standards and Safety Authority. In Ontario, the trade is part of the Interprovincial Red Seal Program-the national standard for the trade across Canada-under the title Boilermaker. www.red-seal.ca

Admission Requirements

- Ontario Secondary School Diploma (OSSD) or equivalent, mature student status
- Prospective students must be in good standing/registered as Apprentices with the Ministry of Labour, Training and Skills Development

Additional Information

An apprenticeship involves practical training provided on-the-job by a skilled worker, or trainer. The skills or competencies to be developed are set out by the trade's apprenticeship training standard and are recognized by the industry as being essential to the practice of the trade.

As these essential skills are developed, the apprentice's sponsor or trainer signs the relevant sections of the training standard to indicate that the apprentice has met the individual training objectives by demonstrating the skills required of a skilled worker, or journeyperson, in the trade.

To advance through the levels of the apprenticeship program, an individual must have completed all of the units outlined in the previous level (i.e., complete Level 1 before advancing to Level 2).

Graduation Requirements

Students must successfully complete all three levels to receive a certificate.

- Construction Boilermaker Level 1 - Basic (CBMB)
- Construction Boilermaker Level 2 - Intermediate (CBMI)
- Construction Boilermaker Level 3 - Advanced (CBMA)

Graduation Eligibility

Students must successfully complete all required courses as noted below. Further details, if applicable, are noted under "Additional Information" above.

Program Tracking

Level 1 - Basic (CBMB)

Program Courses		Hours
CBMB 1000	Plant Systems and Ancillary Components 1	24
CBMB 1001	Trade Environment	21
CBMB 1002	Rigging and Hoisting 1	27
CBMB 1003	Prints and Layouts 1	63
CBMB 1004	Trade Tools and Equipment	39
CBMB 1005	Applied Trade Calculations 1	15
CBMB 1006	Welding and Cutting 1	51
	Hours	**240**
	Total Hours	**240**

Level 2 - Intermediate (CBMI)

Program Courses		Hours
CBMI 1000	Plant Systems and Ancillary Components 2	57
CBMI 1001	Rigging and Hoisting 2	33
CBMI 1002	Prints and Layouts 2	75
CBMI 1003	Applied Trade Calculations 2	15
CBMI 1004	Welding and Cutting 2	60
	Hours	**240**
	Total Hours	**240**

Level 3 - Advanced (CBMA)

Program Courses		Hours
CBMA 1000	Plant Systems and Ancillary Components 3	81
CBMA 1001	Rigging and Hoisting 3	12
CBMA 1002	Prints and Layouts 3	63
CBMA 1003	Applied Trade Calculations 3	18
CBMA 1004	Welding and Cutting 3	66
	Hours	**240**
	Total Hours	**240**

Disclaimer: *The information in this document is correct at the time of publication. Academic content of programs and courses is revised on an ongoing basis to ensure relevance to changing educational objectives and employment market needs.*

Program outlines may be subject to change in response to emerging situations, in order to facilitate student achievement of the learning outcomes required for graduation. Components such as courses, progression, coop work terms, placements, internships and other requirements may be delivered differently than published.