



## PLMB4 – Plumber Apprenticeship Level 4

### Trades

**Effective Term & Year:** Fall 2022

**Program Outline Review Date:** 2026-09-01

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**Program Area:** Trades Apprenticeship Training

#### **Description:**

This 8-week program delivers the skills, knowledge and training required for Level 4 of the 4 Level

Plumber Apprenticeship Program. Topics covered include installing sanitary and storm drainage systems, private sewage systems, water service and distribution, hydronic heating and cooling systems, specialized systems and natural gas and propane systems. The program includes classroom theory, demonstrations and practical hands-on training in a plumbing lab and shop setting. Safe work habits are important in this trade and are emphasized, practiced and reinforced throughout the program.

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#### **Credentials Granted:**

Upon successful completion of the 8-week Level 4 Plumber Apprenticeship program, students receive:

- Level 4 Technical Training credit of the Plumber Apprenticeship program from SkilledTradesBC
  - College of the Rockies Plumber Apprenticeship Level 4 Certificate
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**Delivery Methods:** Face-to-Face, Online

**Program Duration:** 8 weeks

**Instructional Activity and Hours:**

<b>Activity</b>	<b>Hours</b>
Instructional Hours (hrs/wk)	28 hrs/wk
Directed Studies (hrs/wk)	2 hrs/wk
Total (hrs/wk)	30 hrs/wk
Total Program Hours	240 Hours

### **Content Weighting:**

<b>Activity</b>	<b>Percentage</b>
Classroom, Directed Studies or Online Instruction	82%
Seminar/Tutorials	18%

### **Admission Requirements:**

Sponsored Plumber apprentice who has successfully completed Level 3 Plumber apprentice technical training.

### **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):

Plumber Level 4: – COTR Custom Package 2012 – 7850000462

– Domestic/Commercial Gas Fitting Level “B” Modules HKLO

- IPT Pipe Trade Handbook – Robert A. Lee
- CSA Standards Code Book for Natural Gas and Propane
- National Plumbing Code 2010

### **Program Competencies and Technical Training Content:**

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

#### **PLUMB 401 Organize Work**

- Read drawings and specifications
- Plan a project

#### **PLUMB 402 Install Sanitary and Storm Drainage Systems**

- Install sanitary drain, waste and vent systems
- Install storm drainage systems
- Install sanitary sewer systems
- Test and commission sanitary and storm drainage systems
- Maintain and repair sanitary and storm drainage systems

#### **PLUMB 403 Install Private Sewage Systems**

- Install private sewage disposal systems
- Maintain and repair sewage disposal systems

#### **PLUMB 404 Install Water Service and Distribution**

- Install potable water distribution systems

#### **PLUMB 405 Install Hydronic Heating and Cooling**

- Install hydronic heating and cooling systems
- Test and commission hydronic systems
- Maintain and repair hydronic systems

#### **PLUMB 406 Install Specialized Systems**

- Install irrigation systems
- Test and commission specialized systems
- Maintain and repair specialized systems

#### **PLUMB 407 Apply Plumbing Principles**

- Apply plumbing principles

## PLUMB 408 Install Natural Gas and Propane Systems

- Install and service fuel systems
- Install and service gas equipment
- Install venting and air supply
- Install and service controls and safeguards
- Use gas codes, regulations and standards

## PLUMB 409 Final Exam

### Evaluation and Assessment:

#### PLUMBER APPRENTICESHIP LEVEL 4

COTR COURSE	SUBJECT COMPETENCIES	THEORY WEIGHTING	PRACTICAL WEIGHTING
PLUMB 401	Organize Work	2%	0%
PLUMB 402	Install Sanitary and Storm Drainage Systems	7%	14%
PLUMB 403	Install Private Sewage Systems	4%	0%
PLUMB 404	Install Water Service and Distribution	2%	0%
PLUMB 405	Install Hydronic Heating and Cooling	7%	14%
PLUMB 406	Install Specialized Systems	2%	0%
PLUMB 407	Apply Plumbing Principles	10%	0%
PLUMB 408	Install Natural Gas and Program Systems	46%	72%
PLUMB 409	Final Exam	20%	0%
	<b>Total</b>	<b>100%</b>	<b>100%</b>

<b>Calculated by the Training Provider</b> In-School Theory/Practical Subject Competency Weighting	83%	17%
<b>Training Provider enters final in-school mark into STBC Direct Access</b>	IN-SCHOOL %	
<b>Calculated by SkilledTradesBC: In-school Mark</b> SkilledTradesBC calculates the percentage weighting once the in-school mark is entered. Combined theory and practical subject competency multiplied by	80%	
<b>Calculated by SkilledTradesBC: Standard Level Exam Mark</b> SkilledTradesBC calculates the percentage weighting once the standard level exam marks have been entered. The exam score is multiplied by	20%	
<b>Calculated by SkilledTradesBC: Final Mark</b> The final mark for determining credit is calculated by SkilledTradesBC.	FINAL%	

### Pass Requirements:

1. Successful completion of the in-school training is defined as a final overall minimum 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:

- CSA approved personal protective equipment (PPE)

- CSA approved Hardhat, blue in colour
- Steel-toed Work Boots
- Safety Glasses
- Coveralls
- Reference materials
- Pen, pencils, coloured pencils, etc.
- Three-ringed binders and paper (lined and unlined)
- Geometry set
- Calculator
- Gloves

**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 2.5.8 Academic Performance
- Policy 2.5.3 Grade Appeal
- Policy 2.4.9 Student Concerns Re Faculty

**Program Grade**

<b>COM</b>	<b>NCG</b>
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.

**Course Descriptions:** Refer to Course Outlines – <https://outlines.cotr.bc.ca/course/>