



## HDT1 – Heavy Duty Equipment Technician Apprenticeship Level 1

### Trades

**Effective Term & Year:** Spring 2024  
**Program Outline Review Date:** 2029-09-01

---

**Program Area:** Trades Apprenticeship Training

#### **Description:**

This 10-week program delivers the technical training for Level 1 of the four-level Heavy Duty Equipment Technician Apprenticeship program. Apprentices develop knowledge and practical skills related to servicing and repairing hydraulic brakes, hydraulic power brakes and air brakes, describing and servicing hydraulic systems and components, describing electricity and servicing electrical systems, servicing and diagnosing frames, steering and suspension systems, servicing, repairing and diagnosing trailer components, describing, diagnosing and repairing heating and air conditioning systems, and identifying and servicing structural components. Occupational skills such as operating equipment, welding, rigging, servicing bearing and seals and use of tools and shop equipment are also developed. This program includes classroom theory, demonstrations and practical hands-on training in a heavy-duty mechanic shop setting. Safe work practices related to the heavy-duty equipment trade are taught and reinforced throughout the program.

---

#### **Credentials Granted:**

Upon successful completion of the 10-week Level 1 Heavy Duty Equipment Technician (Heavy Duty Equipment Mechanic) Program, students will receive:

- Level 1 Technical Training credit for the Heavy Duty Equipment Technician Apprenticeship program from SkilledTradesBC.

---

**Delivery Methods:** Face-to-Face, Hybrid (Face-to-Face and Online)

**Program Duration:** 10 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	300 Hours

### Content Weighting:

Activity	Percentage
Classroom, Directed Studies or Online Instruction	50%
Seminar/Tutorials	50%

### Admission Requirements:

Sponsored Heavy Duty Equipment Technician 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):

*HD Tech – Level 1: COTR Custom Package 2016 (+ BC Module) King's Printer.*

*Please see the instructor's syllabus or check COTR's online text calculator  
<https://textbook.cotr.bc.ca/>  
for a complete list of the currently required textbooks.*

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

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

### **HDAP 111 Perform Occupational Skills**

- Use safe work practices
- Implement hybrid and electric vehicle (EV) safety protocols
- Use hand tools, power tools, and shop equipment
- Use fasteners and fittings
- Lift and support loads
- Operate equipment
- Use documentation and reference materials
- Service bearings and seals
- Select and maintain lubricants
- Use cutting and welding equipment
- Describe diagnostic procedures

### **HDAP 112 Service, Diagnose, and Repair Brakes**

- Service and repair hydraulic brakes and parking brakes
- Service and repair hydraulic power brakes and ABS systems
- Service and repair air brakes

### **HDAP 113 Service, Diagnose, and Repair Hydraulics**

- Service hydraulic components

### **HDAP 114 Service, Diagnose, and Repair Electrical and Electronic Systems**

- Describe electricity
- Use electrical testing instruments
- Service, diagnose and repair battery systems
- Service Charging Systems
- Service starting and charging systems
- Service electrical circuits

### **HDAP 115 Service, Diagnose, and Repair Frames, Steering, and Suspension**

- Service, diagnose, and repair tires, wheels, and hubs
- Service steering systems
- Service, diagnose, and repair suspension systems
- Service undercarriage systems

- Service, diagnose, and repair frames

### HDAP 116 Service, Diagnose, and Repair Trailers

- Service, diagnose, and repair landing gear and trailer accessories
- Service, diagnose, and repair coupling systems
- Service, diagnose, and repair trailer body components
- Service heating and refrigeration systems

### HDAP 117 Service, Diagnose, and Repair Heating, Ventilation and Air Conditioning

- Describe heating and air conditioning fundamentals

### HDAP 118 Service, Diagnose, and Repair Structural Components and Accessories

- Describe protective structures
- Service, diagnose, and repair cab structures

### HDAP 119 Use Communication and Mentoring Techniques

- Use communication techniques

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

See instructor's syllabus for the detailed outline of weekly readings, activities, and assignments.

## Evaluation and Assessment:

### HEAVY DUTY EQUIPMENT TECHNICIAN APPRENTICESHIP LEVEL 1

COTR COURSE	SUBJECT COMPETENCIES	THEORY WEIGHTING	PRACTICAL WEIGHTING
HDAP 111	Perform Occupational Skills	11%	12%
HDAP 112	Service, Diagnose, and Repair Brakes	19%	19%
HDAP 113	Service, Diagnose, and Repair Hydraulics	15%	15%
HDAP 114	Service, Diagnose, and Repair Electrical and Electronic Systems	17%	18%
HDAP 115	Service, Diagnose, and Repair Frames, Steering and Suspension	20%	21%
HDAP 116	Service, Diagnose, and Repair Trailers	10%	10%
HDAP 117	Service, Diagnose, and Repair Heating, Ventilation and Air Conditioning	3%	0%
HDAP 118	Service, Diagnose, and Repair Structural Components and Accessories	4%	5%
HDAP 119	Use Communication and Mentoring Techniques	4%	0%
<b>Total</b>		<b>100%</b>	<b>100%</b>

<b>In-school theory / practical subject competency weighting</b>	50%	50%
<b>Final in-school percentage score</b>	IN-SCHOOL %	
<b>In-school Percentage Score</b>	80%	
Combined theory and practical subject competency multiplied by		
<b>Standard Level Exam Percentage Score</b>	20%	
The exam score is multiplied by		
<b>Final Percentage Score</b>	FINAL%	

### Pass Requirements:

In order to pass this program, students are required to:

- achieve a minimum overall 70% final percentage score.

Students must attend all required scheduled exams that make up a final grade at the appointed time and place.

Individual instructors may accommodate for illness or personal crisis. Additional accommodation will not be made unless a written request is sent to and approved by the appropriate Department Head prior to the scheduled exam.

Any student who misses a scheduled exam without approval will be given a grade of "0" for the exam.

### Students must provide their own:

- safety glasses
- coveralls
- leather steel toed boots
- pens, pencils, coloured pencils, paper
- calculator
- Reference Manuals (as listed on front page)

---

### 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

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.

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