HDT1 – Heavy Duty Equipment Technician Apprenticeship Level 1

Trades

Effective Term & Year: Fall 2022
Program Outline Review Date: 2024-09-01

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: On-Campus (Face-to-Face), 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
Theory	50%
Practical Skills	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). Queen's Printer.

Program Competencies and Technical Training Content:

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

HDAP 111 Occupational Skills

- Use Safe Work Practices
- Use Hand Tools, Power Tools, and Shop Equipment
- Use Fasteners and Fittings
- Lift and Support Loads
- Operate Equipment
- Use Shop resources and Record Keeping Practices
- Service Winch Wire Rope
- Identify Lubricants
- Service Bearings and Seals
- Use Electronic Media
- Use Cutting and Welding Equipment
- Describe Diagnostic Procedures

HDAP 112 Brakes

- Service and Repair Hydraulic Brakes
- Service and Repair Hydraulic Power Brakes
- Service and Repair Air Brakes

HDAP 113 Hydraulics

- Describe Hydraulic Systems
- Service Hydraulic Components

HDAP 114 Electrical

- Describe Electricity
- Use Electrical Testing Instruments
- Service and Diagnose Batteries
- Service Charging Systems
- Service Starting Systems
- Service Electrical Circuits

HDAP 115 Frames, Steering and Suspension

- Service and Diagnose Tires, Wheels, and Hubs
- Service Steering Systems
- Service, Diagnose and Repair Suspension Systems

- Diagnose and Repair Frames

HDAP 116 Trailer

- Service Landing Gear and Trailer Accessories
- Service and Repair Coupling Systems
- Service, Diagnose and Repair Trailer Body Components
- Service, Diagnose and Repair Heating and Refrigeration Systems

HDAP 117 Heating, Ventilation and Air Conditioning

- Describe Heating and Air Conditioning Fundamentals
- Diagnose and Repair Heating and Air Conditioning Systems

HDAP 118 Structural Components and Accessories

- Identify Protective Structures
- Service Cab Structures

Evaluation and Assessment:

HEAVY DUTY EQUIPMENT TECHNICIAN APPRENTICESHIP LEVEL 1

COTR COURSE	SUBJECT COMPETENCIES	THEORY WEIGHTING	PRACTICAL WEIGHTING
HDAP 111	Occupational Skills	10%	10%
HDAP 112	Brakes	19%	19%
HDAP 113	Hydraulics	15%	15%
HDAP 114	Electrical	17%	17%
HDAP 115	Frames, Steering and Suspension	19%	19%
HDAP 116	Trailer	5%	5%
HDAP 117	Heating, Ventilation and Air Conditioning	5%	5%
HDAP 118	Structural Components and Accessories	5%	5%
	Total	**100%**	**100%**
In-school theory / practical subject competency weighting		50%	50%
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:

• 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 2.4.8 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.