

# Heavy Duty Equipment Technician

This program is designed to provide trainees with skills and knowledge required for employment in the field of Heavy Duty Equipment Technician. Heavy Duty Equipment Technicians diagnose problems, locate the cause of the malfunction, dismantle and overhaul components. They repair defects, reassemble existing parts or fit new parts, and make final adjustments.

The Provincial Apprenticeship and Certification Board through legislative authority is responsible for the registration of apprentices and trade qualifiers into the designated occupations.

The registration of an apprentice will take place when an individual is employed in a field of work directly relating to a designated occupation, and has a Memorandum of Understanding (MOU) signed between the Division of Institutional and Industrial Education, an employer and the apprentice.

After successful completion of this program, and the required work experience, the apprentices qualify to return to complete advanced level training in preparation for writing the Journeyman's Examination.

### OBJECTIVES

1. To familiarize the student with the principles of operation, construction, care and maintenance of various types of hand tools and power tools.
2. To acquaint the student with the various routines and practices pertaining to the Heavy Duty Repair Trade.
3. To develop skills and to impart knowledge relative to this particular trade.



### ENTRANCE REQUIREMENTS

Comprehensive Arts and Science Certificate (College Transition program),

**OR**

High School Graduation,

**OR**

Grade XI Certificate (Public Examinations or equivalent),

**OR**

Adult Basic Education (Level III) Graduation,

**OR**

Adult Basic Education (Level III) Graduation with General College Profile (or Business-Related College Profile or Degree and Technical Profile). It is strongly recommended that courses include the following:

1. Mathematics MA3107A, MA3107B, MA3107C

2. Science 3101, 3102, 3103

**OR**

Persons 19 years of age or older who do not meet the educational prerequisite for this program may be considered on an individual basis under the Mature Student Clause.

### EQUIPMENT REQUIRED FOR TRAINING

Safety boots, safety hat, safety glasses, two pairs of coveralls and gloves, tool box and selection of tools.

### CERTIFICATE

- 43 weeks
- Start date varies
- Bay St. George, Placentia and Happy Valley-Goose Bay Campuses

### COURSES

CODE	TITLE	Hrs
<b>Block 1</b>	<b>Entry Level</b>	
AP1100	Introduction to Apprenticeship	15
SV1101	Safety	30
SV1110	Ozone Depleting Substances	7
SV1121	Gaskets and Seals	5
SV1131	Electrical and Electronic Principles	55
SV1141	Introduction to Hydraulics	30
SV1151	Service Information Systems	25
SV1166	Tools and Equipment	30
SV1181	Fasteners, Tubings, Hoses and Fittings	30
SV1190	Lubrication and Fluid Services	30
SV1201	Start, Move, and Park Vehicle	5
SV1211	Tires, Rims and Wheels	25
SV1261	Vehicle Hydraulic Brake Systems	60
SV1271	Basic Air Brake Systems	60
SV1281	Drive Lines	25
SV1301	Cutting, Heating and Welding	30
SV1303	Engine Principles	45
SV1310	Cooling Systems	30
SV1331	Intake and Exhaust Systems	25
SV1361	Diesel Fuel Supply Systems	25
SV1365	Non-Diesel Fuel Systems	25
SV1370	Batteries	15
SV1401	Gauges	11
SV1451	Steering Systems	30
SV1491	Conventional Lighting Systems	15
SV1501	Wiring Harnesses and Accessories	15
SV1800	Hoisting and lifting	15
SV1810	Preventative Maintenance	5
SV1820	Bearings	6
SV1830	Metallurgy	5
SV2381	Hydraulic Fittings, Piping, Tubing and Hoses	25
SV2391	Reservoirs, Coolers and Filters	15
TS1510	Occupational Health and Safety	6
TS1520	WHMIS	6
TS1530	Standard First Aid	14
WD2330	MIG Welding	30

### Related Courses

		Hrs
CM2150	Workplace Communications	45
MC1050	Introduction to Computers	30
MR1220	Customer Service	30
SD1700	Workplace Skills	30
SD1710	Job Search Techniques	15
SD1720	Entrepreneurial Awareness	15
SP2330	Quality Assurance/Quality Control	30
MA1060	Basic Math	60

### Block 2 Advanced Level

		Hrs
SV1291	Drive Axle Assemblies	45
SV1380	Starting Systems	30
SV1386	Starting Aids	15
SV1391	Charging Systems	30
SV1840	Heating and Ventilation Systems	15
SV2310	Electric Brakes	15
SV2400	Hydraulic Pumps and Motors	30
SV2661	Electronic Ignition Systems	30

### Block 3 Advanced Level

		Hrs
SV1251	Front and Rear Suspensions	40
SV2301	Track-Type Undercarriage	40
SV2291	Tracked Steering Systems	30
SV2371	Final Drives	15
SV2411	Control Valves	10
SV2420	Hydraulic Cylinders	15
SV2431	Accumulators	10
SV2451	Hydrostatic Drives	25
SV2461	Hydraulic Systems Diagnostics and Testing	15
SV2510	Blade Buckets and Cutting Edges	15
SV1245	Wheel and Axle Alignment	25

### Block 4 Advanced Level

		Hrs
SV2265	Vehicle Management Systems	60
SV2350	Torque Converters	30
SV2365	Automatic/Power Shift	35
SV2571	Engine Brakes and Retarders	20
SV2651	Electronically-Controlled Diesel Fuel Injection Systems	45
SV2771	Emission Control Systems	20
WD2320	SMAW Welding	30

### Block 5 Advanced Level

		Hrs
SV1321	Engine Lubrication Systems	15
SV2266	Diesel Fuel Injection Systems	45
SV2560	Preventative Maintenance Inspections	15
SV2591	Turbo Chargers, Blowers and Intercoolers	25
SV2605	Diesel Engine Overhaul	120
SV2611	Base Engine Diagnostics	20

### Block 6 Advanced Level

		Hrs
SV1231	Power-Assisted Steering Systems	25
SV1410	Fire Suppression Units	15
SV2341	Manual Transmissions and Power Take-Offs	30
SV2441	Articulated Steering Systems	15
SV2471	Winches, Wire Ropes and Accessories	25
SV2481	Cabs and Protective Structures	10
SV2491	Pneumatic Systems	20
SV2555	Material Handling Equipment	40
SV2556	Equipment Hydraulic Brake Systems	30
SV2729	Engine Clutches	15
SV2741	Transfer Cases	15