

# HEAVY MECHANICAL TRADES (HMEC)

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## **HMEC 1101 Credits: 1**

### **Safe Work Practices Total Hours: 25**

This course introduces students to the concepts of safe work practices, occupational health & safety, environmental practices, math, science and electronic media. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections A1, A2, A3, A12, and A13. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

## **HMEC 1106 Credits: 1**

### **Tools and Equipment 1 Total Hours: 25**

This course introduces students to the use of protective equipment, lock out procedures and the use and maintenance of hand tools. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program section A4. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

## **HMEC 1107 Credits: 1**

### **Tools and Equipment 2 Total Hours: 25**

This course introduces students to the use of measuring instruments, power tools, drill bits and shop equipment. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections A4. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavymechnical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

## **HMEC 1111 Credits: 1**

### **Fasteners and Fittings Total Hours: 25**

This course introduces students to imperial and metric fasteners, internal and external threads, tubing, pipe and fittings, hose and hose fittings. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program section A5. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

## **HMEC 1116 Credits: 1**

### **Equipment Operation Total Hours: 25**

This course introduces students to pre-start and walk around inspections, starting aids, start up procedures, emergency shut down procedures, starting, operating, and shut down of equipment, heavy duty equipment lock out, forklift operation. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program section A7. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

## **HMEC 1126 Credits: 1**

### **Lubricants and Bearings Total Hours: 25**

This course introduces students to lubricant identification, bearing and seal service procedures. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections A10, and A11. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

## **HMEC 1131 Credits: 1**

### **Employment Skills Total Hours: 25**

This course introduces students to shop resources, record keeping practices, job action, diagnostic procedures, and employment preparation. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections A8, A15, A16, and A17. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

## **HMEC 1160 Credits: 1**

### **Cutting and Welding 1 Total Hours: 25**

This course introduces students to welding regulations, metals, oxy-acetylene components, equipment, cutting, welding and brazing. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program section A14. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

## **HMEC 1161 Credits: 1**

### **Cutting and Welding 2 Total Hours: 25**

This course introduces students to tubing and sheet metal soldering, the shielded metal arc welding (SMAW) process, SMAW equipment, mild steel electrodes for SMAW, mild steel welding with SMAW, mild steel welding wire feed processes, and air-arc gouging. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program section A14. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

## **HMEC 1165 Credits: 1**

### **Math, Science and Loads Total Hours: 25**

This course introduces students to math and science for trades, load supporting and lifting, servicing winch wire rope and the removal of undercarriages. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections A12, A6, A9, and E5. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

## **HMEC 1170 Credits: 1**

### **Final Drives and Undercarriage Total Hours: 25**

This course introduces students to the installation of undercarriages, removal and installation of final drives, and final drive service. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections I5, I15, and I22. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1175 Credits: 1****Frames, Wheels, Tires and Hubs Total Hours: 25**

This course introduces students to the service and diagnosis of wheels, tires, hubs and the diagnosis and repair of frames. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections E6, and E1. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1235 Credits: 1****Steering Systems Total Hours: 25**

This course introduces students to basic steering system fundamentals, and steering system service. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program section E2. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundationmarch-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1240 Credits: 1****Suspension Systems 1 Total Hours: 25**

This course introduces students to wheeled equipment suspension systems, diagnosis and repair of wheeled equipment suspension systems, and the diagnosis and repair of auto-lube systems. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program section E4. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundationmarch-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1241 Credits: 1****Suspension Systems 2 Total Hours: 25**

This course introduces students to truck and trailer steering axle suspension systems, repair of truck and trailer steering axle suspension systems, truck and trailer rear axle suspension systems and repair of truck and trailer rear axle suspension systems. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program section E4. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1245 Credits: 1****Hydraulic Systems Total Hours: 25**

This course introduces students to the principles of hydraulics, basic operation of a hydraulic system, types of hydraulic systems, and the interpretation of hydraulic diagrams. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program section C1. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1250 Credits: 1****Hydraulic System Service Total Hours: 25**

This course introduces students to hydraulic components, hydraulic fluids, hydraulic hoses and fittings, safe work practices, and scheduled maintenance. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program section C2. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1255 Credits: 1****Electricity Total Hours: 25**

This course introduces students to electrical terminology, basic theory concepts, circuit calculations, magnetic theory, electrical and electronic components, wiring diagrams and symbols. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program section D1. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1260 Credits: 1****Batteries & Elect Test Instrum Total Hours: 25**

This course introduces students to electrical test instruments, and the diagnosis and service of batteries. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections D2, and D3. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanicalfoundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1265 Credits: 1****Starters and Charging Systems Total Hours: 25**

This course introduces students to charging system service and starter systems service. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections D6, and D4. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundationmarch-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1270 Credits: 1****Elec Circuits, Cab & Protectiv Total Hours: 25**

This course introduces students to electrical circuits, cab structures and protective structures. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections D8, J1 and J2. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanicalfoundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1275 Credits: 1****Hydraulic Brakes Systems Total Hours: 25**

This course introduces students to the foundations of hydraulic brake systems. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program section B1. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1280 Credits: 1****Power Brakes Total Hours: 25**

This course introduces students to the diagnosis and repair of power brake systems. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections B1, and B2. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1285 Credits: 1****Air Brakes 1 Total Hours: 25**

This course introduces students to the foundations of air brake systems. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program section B3. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1315 Credits: 1****Air Brakes 2 Total Hours: 25**

This course introduces students to the air brake system service and inspection. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program section B3. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1320 Credits: 1****Heating & Air Conditioning Sys Total Hours: 25**

This course introduces students to the diagnosis and repair of heating and air conditioning systems. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections G1, and G2. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanicalfoundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1325 Credits: 1****Landing Gear, Trailers & Coupl Total Hours: 25**

This course introduces students to accessories, lift gates, landing gears, winches, hitches and couplers. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections F1, and F2. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanicalfoundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1330 Credits: 1****Trailer Components Total Hours: 25**

This course introduces students to trailer body components and trailer heating and refrigeration systems. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections F3, and F4. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanicalfoundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1335 Credits: 1****Diesel Fuel & Engine Supp Syst Total Hours: 25**

This course introduces students to engine support systems, two and four stroke combustion cycles, characteristics of diesel fuel, diesel fuel supply circuits and their components. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections H2, and H4. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1340 Credits: 1****Diesel Engine Removal Total Hours: 25**

This course introduces students to diesel engine removal. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program section H9. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1345 Credits: 1****Diesel Engine Installation Total Hours: 25**

This course introduces students to diesel engine installation. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program section H9. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1350 Credits: 1****Gas Fuel Systems and Ignition Total Hours: 25**

This course introduces students to gasoline fuel injection systems, and electronic ignition systems. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections H6, and H16. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanicalfoundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1355 Credits: 1****Transmissions Total Hours: 25**

This course introduces students to clutches, manual transmissions, torque converters, torque dividers, powershift and automatic transmissions. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections I2, I4, I7, and I8. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1360 Credits: 1****Drivelines Total Hours: 25**

This course introduces students to drivelines and transmission removal and installation. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections I20, and I11. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundationmarch-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1365 Credits: 1****Drive Axles and Differentials Total Hours: 25**

This course introduces students to drive axles and differential servicing. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program sections I13, and I21. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundation-march-2014.pdf> for more information. This course is part of the full-time Heavy Mechanical Trades Foundation program

**HMEC 1370 Credits: 1**

**Employment Preparation Total Hours: 25**

This course introduces students to areas and types of vehicles and equipment maintained and repaired, business types, business relationships, government relationships, labour relationships, employee attributes, employer responsibilities, resume and job search resources and preparing for an interview. Topics included are from the Industry Training Authority Heavy Mechanical Trades Foundation Program section A17. See: <http://www.itabc.ca/sites/default/files/docs/partners/RTO/heavy-mechanical-foundationmarch-2014.pdf> for more information.

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