

MODULE DESCRIPTIONS

Module MEC1010: Modes & Mechanism

Students research, design, build and test a model of a transportation vehicle, using a simple power source, common materials and tools.

Module MEC1020: Vehicle Service & Care

Students develop knowledge, skills and attitudes to care for and service a motor vehicle.

Module MEC1040: Engine Fundamentals

Students investigate and describe operating principles, construction and applications of engines.

Module MEC1090: Electrical Fundamentals

Students identify and describe the operating principles and applications of electricity.

Module MEC1110: Pneumatics & Hydraulics

Students identify and describe the operating principles and applications of pneumatic and hydraulic systems.

Module MEC1130: Mechanical Systems

Students identify and describe the operating principles and applications of mechanisms used to transmit and control mechanical energy.

Module MEC1150: Ride & Control Systems

Students develop a basic knowledge of ride and control systems associated with vehicles.

Module MEC1160: Structures & Materials

Students identify the types of materials and components used in vehicle construction.

Module MEC1170: Metal Forming & Finishing

Students repair and re-form damaged metal panels.

Module MEC1190: Surface Preparation 1

Students assess the state of a painted surface, and use appropriate restoration procedures.

Module MEC2010: Vehicle Detailing

Students develop the skills required to restore and enhance the exterior finishes of a vehicle.

Module MEC2020: Vehicle Maintenance

Students perform the basic service requirements necessary to ensure adequate maintenance of a motor vehicle.

Module MEC2030: Lubrication & Cooling

Students diagnose, maintain and service the lubrication and cooling systems of a typical four-cycle gasoline engine.

Module MEC2040: Fuel & Exhaust Systems

Students diagnose, maintain and service the fuel and exhaust system of a typical four-cycle gasoline engine.

Module MEC2050: Alternative Fuel Engines

Students determine alternative fuels used to power motor vehicles.

Module MEC2060: Ignition Systems

Students identify the basic components and parts of ignition systems used on internal combustion engines, and service and repair an ignition system.

Module MEC2070: Emission Controls

Students describe the importance of controlling emissions and the technology applied to vehicles to meet prescribed standards.

Module MEC2090: Electrical Components

Students identify and describe the basic use and testing of the electrical components of a typical motor vehicle.

Module MEC2100: Power Assist Accessories

Students identify and explain the function of components and parts of power assist accessories.

Module MEC2110: Braking Systems

Students develop the necessary knowledge, skills and attitudes to diagnose, service and maintain a braking system according to accepted trade practices.

Module MEC2120: Hydraulic Accessories

Students develop a basic knowledge of hydraulic components, applications and servicing techniques.

Module MEC2130: Drive Trains

Students identify the purpose, describe the operation and perform the servicing of a vehicle drive train.

Module MEC2140: Transmissions/Transaxles

Students perform inspection service and repair procedures on manual transmissions, transaxles and clutch assemblies.

Module MEC2150: Suspension Systems

Students develop the knowledge, skills and attitudes necessary to service and maintain vehicle suspension systems.

Module MEC2160: Steering Systems

Students develop the knowledge, skills and attitudes necessary to maintain a steering system.

Module MEC2170: Metal Repair & Finishing

Students analyze and repair metal damage.

Module MEC2180: Trim Replacement

Students demonstrate the removal and repair of trim parts, with an emphasis on removal and installation without damage.

Module MEC2190: Surface Preparation 2

Students perform advanced surface preparations.

Module MEC2200: Refinishing 1

Students demonstrate metal surface refinishing procedures.

Module MEC2210: Touch-up & Finishing

Students determine and use the appropriate materials, tools and processes for minor surface repairs.

Module MEC2220: Interior Repairs

Students search for and use the appropriate products and techniques to maintain vehicle interior surface materials.

Module MEC3010: Buying & Selling Vehicles

Students develop the skills required to make an informed purchase or sale of a vehicle.

Module MEC3020: Vehicle Value Appraisal

Students demonstrate the procedures used by industry to estimate the cost of a repair and the market value of a vehicle.

Module MEC3030: Engine Diagnosis

Students learn to diagnose the condition of an engine for worn or damaged parts and/or improper adjustments.

Module MEC3040: Engine Tune-up

Students diagnose, service and repair engine, fuel, ignition, charging and starting systems.

Module MEC3050: Engine Replacement

Students remove and install an engine in a chassis.

Module MEC3060: Engine Reconditioning 1

Students determine the need for service, and perform the required service, on the cylinder head and related components of an engine.

Module MEC3070: Engine Reconditioning 2

Students determine the need for service, and perform service, on a cylinder block assembly and related components of an engine.

Module MEC3080: Alternative Energy Systems

Students describe why vehicle manufacturers continue to build the crank-piston internal combustion gasoline engine. Students also identify and describe future engine designs.

Module MEC3090: Computer Systems

Students provide an overview of the applications of computer management systems used in modern vehicles.

Module MEC3100: Safety Systems

Students describe how safety systems can be tested, diagnosed, replaced or repaired.

Module MEC3110: Climate Control

Students expand their knowledge of the purpose, operation and servicing of standard heating and air conditioning systems.

Module MEC3120: Power Assisting

Students further develop their knowledge of the purpose, operation, service and repair of pneumatic, hydraulic and electric power assist devices.

Module MEC3130: Automatic Transmissions

Students develop knowledge of automatic transmissions and transaxles, and skills in diagnosing and executing minor automatic transmission and transaxle repair requirements.

Module MEC3140: Drive Train Repair

Students perform overhauls on clutch, transmission and differential assemblies.

Module MEC3150: Wheel Alignment

Students develop the knowledge, skills and attitudes necessary for repairing and aligning various vehicle steering systems.

Module MEC3160: Body Repair Estimation

Students apply knowledge in estimating, including close attention to detail in determining the cost of a repair.

Module MEC3170: Damage Analysis

Students identify and examine physical damage caused by collisions, and learn cost estimating procedures.

Module MEC3180: Damage Repair 1

Students examine the methods used to complete a repair involving removing, replacing and aligning of body parts.

Module MEC3190: Damage Repair 2

Students examine methods used to complete a collision repair involving unibody parts replacement and frame correction.

Module MEC3200: Refinishing 2

Students demonstrate finishing skills and techniques related to the preparation and application of metallic paints.

Module MEC3210: Plastic & Fibreglass

Students determine the types of plastic and fibreglass materials required for repairs, and perform appropriate repair procedures.

Module MEC3220: Glass Replacement

Students demonstrate knowledge, skills and practice related to vehicle glass installation and adjustment.

Module MEC3230: Refinishing 3

Students demonstrate knowledge and skills of advanced finishing techniques, including custom painting, mixing, tinting, colour and texture matching.