

Agricultural Business and Technology Hartnell College



**HARTNELL
COLLEGE**
AGRICULTURAL
BUSINESS AND
TECHNOLOGY
INSTITUTE

Diesel Mechanics Course Descriptions

Aut-150 Introduction to Diesel Engines

This course will introduce the different types of diesel engines, components, and supporting system. This course will cover the safe use of hand and power tools, and the proper use of the safety equipment used in the diesel trucks and buses including safe driving procedures and the securing of cargo and passengers according to the State and Federal regulations.

Aut 151 Diesel Engine Maintenance

Procedures for conducting maintenance and service on diesel engines and related systems for on- road and off-road vehicles, the record-keeping requirements to conform to state and federal regulations, selection of the various lubricants and oils needed in the maintenance of the equipment, and the rules regarding hazardous wastes and their respective hazards to people's health and the environment. The training in the proper use of safety equipment in the diesel trucks and buses including driving procedures and safety rules and procedures for securing cargo and passengers according to State and Federal regulations.

Aut-152 Diesel Electrical Systems

Theory and principles of electricity employed in the testing, service and maintenance of electrical circuits for vehicles with diesel engines. Covers troubleshooting procedures and repair of the cranking, charging and battery system. Learn to read and understand electrical diagrams, follow wiring repair procedures, use circuit protection devices, understand wiring sizes, current load capacity, terminals and connector repair service. Lighting relays, solenoids and switch maintenance, repair and replacement. Training in the proper use of safety equipment used in diesel trucks and buses including safe driving rules and procedures, including securing passengers and cargo.

Aut 153 Diesel Brake System, Suspension and Chassis

Principles, operation, repair and maintenance of the different brake, suspension and steering systems that are used in the heavy duty diesel on-road and off-road equipment. The diagnosis and repair of components using service manuals and follow their procedures to correctly find problems and do the necessary repairs to manufactures specifications. The training in the proper use of safety equipment used in the diesel trucks and buses including driving procedures and safety rules/procedures for securing cargo and passengers according to State and Federal regulations.

Aut 154 Diesel Engine Performance

This course will introduce the student to the techniques of performing the diagnosis and repair of diesel engines, including major tune-up procedures, valve adjusting, fuel pump testing, adjusting, and replacing, adjusting and servicing engine brakes, turbochargers, superchargers and intake systems, glow plugs and other engine starting aid systems, fasteners and sealers used in the diesel engines, and proper use of tools and literature to perform all needed adjustments to maintain proper engine performance.

Aut 155 Diesel Engine Troubleshooting

Troubleshooting procedures on the four-cycle-diesel-engines; including air inlets, fuel, lubrication, electrical, cooling and breaks. Diagnostic tools and gauges and safety will be examined.

Aut-156 Diesel Engine Rebuild

Introduces the different types of diesel engines; understand the principles of the Diesel Engine, the construction and operation of the major engine components such as the: cylinder block, crankshaft, piston, piston rings, cylinder heads, valve train and connecting rods, combustion chamber design, fuel system and injectors.

Aut 157 Diesel Automatic Transmission Diagnosis and Repair

Designed for students interested in diesel transmission overhaul. Focus on troubleshooting, removing, overhauling, replacing and rebuilding heavy-duty, automatic diesel transmissions.

Aut-158 Diesel Heavy Duty Power Drive Train

This course focuses on the inspection and repair procedures of the clutch, manual transmission, drive shaft, and differential of heavy duty diesel trucks, buses and industrial applications.

Aut 91A Intro to Diesel Engine Rebuild

This course will introduce the different types of tools used for engine disassembly, use of shop manuals, inspection and measurements of parts, and shop safety.

Aut 99I Occupational Work Exp/Internship

Sign up during the any semester to receive credit for work experience or an internship. Required for your certificate completion.