

Diesel Powered Equipment Technology

Description

The purpose of this program is to provide specialized classroom instruction and practical shop experience to prepare individuals for employment as entry-level diesel-powered equipment technicians. The program prepares the individual to select, safely use, and maintain hand and power tools, jacks, and hoisting equipment. The content includes, but is not limited to, disassembling engines, replacing parts, fuel injection systems, oil and water pumps, electrical systems, steering and suspension systems, brake systems, drive train, and chassis.

Program Learning Objectives

1. Select, safely use, and maintain hand and power tools, jacks, and hoisting equipment.
2. Disassemble and replace parts, fuel injection systems, oil and water pumps, electrical systems, steering and suspension systems, brake systems, drive train, and chassis.
3. Demonstrate the ability to identify tooling and procedures for preventative maintenance as well as properly use diagnostic equipment for retrieval of diagnostic codes.
4. Demonstrate the ability to successfully disassemble and reassemble a diesel engine using the proper tools and procedures.
5. Use safe and efficient work practices.

Curriculum

Course #	Course Title	Lecture/ Lab Hours	Credit Hours	Clock Hours
DPET 1120	Safety Skills & Introduction to Diesel	1/2	3	105
DPET 1130	Diesel Engine Parts Identification & Operating PRI	2/2	4	120
DPET 1140	Engines I	1/2	3	105
DPET 1240	Diesel Engine Fuel Systems	1/2	3	130
DPET 1210	Basic Diesel Electrical Systems	2/2	4	120
DPET 1231	Diesel Engine Control Systems	1/1	2	60
DPET 1150	General Engine Diagnostics	1/2	3	150
CTS – Diesel Engine Technician			22	790
DPET 1310	Introduction to Power Trains	1/1	2	60
DPET 1320	Transmissions	1/2	3	105
DPET 2110	Basic Hydraulics	1/1	2	150
DPET 2130	Brakes	1/3	4	150
DPET 2210	Fundamentals of Suspension	1/2	3	75
DPET 2220	Air Conditioning	2/2	4	180
DPET 2240	Diesel Preventive Maintenance	1/2	3	150
JOBS 2450	Job Seeking Skills	2/0	2	30
TD – Diesel Powered Equipment Technician			45	1690

Course Descriptions

DPET 1120 Safety Skills & Introduction to Diesel

Basic safety information needed to prepare individuals to safely enter the workforce of diesel-powered equipment technology.

DPET 1130 Diesel Engine Parts Identification & Operating PRI

This course is an introduction to the design and construction of diesel engines and identification of diesel engine parts.

DPET 1140 Engines I

The course will include disassembly, inspection, evaluation, repair, and reassembly of diesel engines.

DPET 1150 General Engine Diagnostics

The course will include performance of preventive maintenance on diesel engines, diagnosis of engine malfunctions, performance of tune-ups using related service manuals and test equipment.

DPET 1210 Basic Diesel Electrical Systems

This course will include electrical safety practices; tool use; connecting and disconnecting techniques; direct current symbols, components, and schematics; principles of DC voltage and current; Ohms Law; and troubleshoot, repair, and calibrate electrical/electronic systems.

DPET 1231 Diesel Engine Control Systems

This course includes identification and functions of vehicle computer control systems.

DPET 1240 Diesel Engine Fuel Systems

This course will include the identity of type and functions of fuel injectors, nozzles, and unit injectors; troubleshooting, replacing injectors and nozzles, the identity of types, parts, functions, operation, and uses of various fuel injection pumps, electronic metering systems and electronic unit injectors.

DPET 1310 Introduction to Power Trains

This course includes the theory of operation and application of various mechanical components used in the transmission of power from the engine.

DPET 1320 Transmissions

The course includes a detailed study of the function, construction, operation, and servicing of automatic and manual transmissions.

DPET 2110 Basic Hydraulics

This course includes the principles of basic hydraulic systems and general maintenance procedures of a hydraulic system. Also included are the disassembly and assembly of hydraulic components and the application of safety rules and regulations.

DPET 2130 Brakes

The course includes nomenclature, theory of operation, and service procedure for medium/heavy duty truck braking systems to include air and hydraulics.

DPET 2210 Fundamentals of Suspension

The course includes the theory of operation and service procedures for medium/heavy duty truck suspension systems.

DPET 2220 Air Conditioning

This course covers the physical and chemical laws governing the principles of refrigeration. The basic cycle and components will be covered. Applications will include alternate refrigerants, transferring, evacuation and system reprocessing.

DPET 2240 Diesel Preventative Maintenance

The course includes the importance of preventive maintenance, types of preventive maintenance, types of preventive maintenance inspection, vehicle overview, & DOT inspection procedures.