

# DIESEL TECHNOLOGY (DSLTC)

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## **DSLTC-101 INTRODUCTION TO DIESEL TECHNOLOGY 2.00 Credits**

Introduction of basic skills needed to perform many repair tasks in a diesel-related repair environment. The student will complete tasks, in a competency-based program, that entry-level technicians will perform in the workplace.

## **DSLTC-102 ELECTRICAL SYSTEMS 6.00 Credits**

The student will be introduced to basic electrical theory and practice as it applies to the heavy equipment and transport technology industries. The student will complete tasks in a competency based program that emulate the skills performed in the workplace. Topics include basic electricity fundamentals, starting and charging systems, batteries, trouble shooting, and lighting systems.

## **DSLTC-102A INTRODUCTION TO ELECTRICAL SYSTEMS 1.00 Credit**

The student will be introduced to basic electrical theory and practice as it applies to the heavy equipment and transport technology industries. The student will complete tasks in a competency based program that emulate the skills performed in the workplace. Topics include basic electricity theory and basic electrical system formulas.

## **DSLTC-102B ELECTRICAL SYSTEMS I 3.00 Credits**

The student will be introduced to basic electrical theory and practice as it applies to the heavy equipment and transport technology industries. The student will complete tasks in a competency based program that emulate the skills performed in the workplace. Topics include basic electricity fundamentals, starting and charging systems, batteries, trouble shooting, and lighting systems. Pre-requisite: DSLTC-102A.

## **DSLTC-102C ELECTRICAL SYSTEMS II 2.00 Credits**

Troubleshooting and repair procedures for heavy-duty electrical systems, including electrical principles as they relate to the components used in trucks and heavy equipment, writing schematics, and lighting along with the associated testing and repair procedures for each system. Topics include basic electricity fundamentals, starting, and charging systems, batteries, troubleshooting, and lighting systems. Pre-requisite: DSLTC-102B.

## **DSLTC-103 POWER TRAINS LECTURE AND LAB 6.00 Credits**

Study of various types of manual transmissions and transaxles, drivelines, clutches, flywheels, rear axles, and differentials found in modern automobiles and light trucks. Operation and repair of various components of power trains and their interrelationships provided.

## **DSLTC-105 DIESEL ENGINES 6.00 Credits**

Teaches the basics on how to identify, repair, and/or replace diesel engines. The student will learn two-stroke and four-stroke combustion engine theory as well as engine performance criteria. The student will learn proper disassembly, measuring, and reassembly procedures and will gain understanding in the operation and basic principles of the various engine components and their respective systems on a diesel engine.

## **DSLTC-126 SAFETY 2.00 Credits**

General principles are needed to foster a safe attitude and work environment. Topics covered include hazardous materials, safe use of equipment and tools, an introduction to the occupation, and health and safety concerns in the work place. Students are required to take first aid and CPR training.

## **DSLTC-190 DIRECTED STUDY IN DIESEL TECHNOLOGY 1.00-12.00 Credits**

## **DSLTC-200 SHOP SKILLS AND CLIMATE CONTROL 6.00 Credits**

Basic shop skills including basic climate controls, welding and fabrication practices as applied to the heavy equipment and transport technology industries. The student will complete tasks in a competency based program that emulates the skills performed in the workplace. Topics include basic air conditioning fundamentals, stick, MIG and acetylene welding techniques along with acetylene/plasma torch cutting techniques. Students will acquire a Class B CDL through class study as well as a driving competency-based evaluation.

## **DSLTC-210 HYDRAULICS 6.00 Credits**

Introduction to basic hydraulic principles and theory. The student will complete a task list in a competency-based program that emulates the skills performed in the workplace. Topics include hydraulic system maintenance, fluid analysis, system familiarization, and troubleshooting procedures will be outlined as it applies to modern diesel equipment.

## **DSLTC-220 DIESEL ENGINE FUEL SYSTEMS AND TUNE-UP 6.00 Credits**

Introduction to diesel engine fuel system theory and practice as it applies to modern diesel equipment repair. The student will apply the principles introduced in the classroom in the format of laboratory sessions. The student will complete tasks in a competency-based program that emulates the skills performed in the workplace. Topics include diesel engine maintenance, direct and indirect fuel injection systems, testing, adjusting and troubleshooting diesel engine fuel systems.

## **DSLTC-230 POWER TRAINS 6.00 Credits**

Provides instruction and practice on the interrelationship and the operation of various heavy-duty power train systems of agricultural, industrial, and on-highway vehicles. Topics include transmissions, clutches, differentials, final drives, drive lines, testing, adjusting and troubleshooting of power train systems.

## **DSLTC-240 CHASSIS, SUSPENSION AND AIRBRAKES 6.00 Credits**

Introduces basic theory and practice of chassis, suspension, and airbrake systems of all types of diesel equipment, on-highway trucks, and agriculture equipment. Laboratory sessions will reinforce and apply the knowledge learned in the classroom.

**DSLTC-290 DIRECTED STUDY IN DIESEL TECHNOLOGY 1.00-6.00 Credits**

**DSLTC-292 DIRECTED SPECIAL PROJECTS 1.00-6.00 Credits**

**DSLTC-294 INTERNSHIP IN DIESEL TECHNOLOGY 1.00-6.00 Credits**

Advanced on-the-job training in diesel technology.