

# DIESEL TECHNOLOGY (DIT)

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## DIT 103 (2 credit hours)

### Preventive Maintenance Lab

Instruction on preventive maintenance practices, scheduled procedures, documents, and D.O.T. required record system and on determining the needs for repair. Laboratory: 2.0 credits (90 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

## DIT 105 (1 credit hours)

### Mechanical Principles

Provides opportunities to practice hands on skills of measuring with precision measurement tools such as micrometers, dial indicator sand caliper. This class also provides opportunities for the student to practice drilling and tapping. Proper rigging techniques are illustrated and practice to ensure that the student will know how to safely lift large and awkward items. Laboratory: 1.0 credit (45 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

## DIT 110 (3 credit hours)

### Introduction To Diesel Engines

Covers fundamental concepts of the operation of two- and four-stroke diesel and gasoline engines. Includes basic engine components and their functions, engine performance terminology, two- and four-stroke operation, combustion principles, and engine disassembly with basic hand tools. Lecture: 3 credits (45 contact hours).

**Co-requisite:** DIT 111.

**Attributes:** Technical

**Components:** LEC: Lecture

## DIT 111 (2 credit hours)

### Introduction To Diesel Engines Lab

Explains the hands-on concepts covered in DIT 110. Provides opportunities to inspect, diagnose, and repair internal combustion diesel engines while learning basic repair strategies. Laboratory: 2 credits (90 contact hours).

**Co-requisite:** DIT 110.

**Attributes:** Technical

**Components:** LAB: Laboratory

## DIT 112 (3 credit hours)

### Diesel Engine Repair

Includes how to take a disassembled engine and evaluate the condition of each component. Includes the identification and use or function of each component of the engine. Covers cylinder block and components, cylinder heads and valve train components, and engine lubrication systems. Lecture: 3 credits (45 contact hours).

**Pre-requisite:** DIT 110 or ADX 150.

**Co-requisite:** DIT 113.

**Attributes:** Technical

**Components:** LEC: Lecture

## DIT 113 (2 credit hours)

### Diesel Engine Repair Lab

Explains the hands-on concepts covered in DIT 112. Provides opportunities to inspect, diagnose and repair internal combustion late model diesel engines while learning basic repair strategies. Laboratory: 2 credits (90 contact hours).

**Pre-requisite:** DIT 111 or ADX 151.

**Co-requisite:** DIT 112.

**Attributes:** Technical

**Components:** LAB: Laboratory

## DIT 121 (3 credit hours)

### Introduction to Maintenance Welding Lab

Provides laboratory experiences in which students acquire the manipulative skills needed to weld surface, fillet, and groove welds in flat and horizontal positions. The students will perform oxy fuel cutting operations. Laboratory: 3 credits (135 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

## DIT 123 (3 credit hours)

### Undercarriage Lab

Provides opportunities to troubleshoot and repair some parts of undercarriage systems and their components. These components include endless track, roller track, roller frames, idlers, roller supports, and mainframes. Lab: 3.0 credits (135 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

## DIT 140 (3 credit hours)

### Hydraulics

Covers the theory and operation of a hydraulic system including pumps, filters, reservoirs, valves and actuators. Lecture: 3 credits (45 contact hours).

**Co-requisite:** DIT 141.

**Attributes:** Technical

**Components:** LEC: Lecture

## DIT 141 (2 credit hours)

### Hydraulics Lab

Explains the hands-on concepts covered in DIT 140. Provides opportunities to inspect, diagnose, and repair hydraulic systems while learning basic repair strategies. Laboratory: 2 credits (90 contact hours).

**Co-requisite:** DIT 140.

**Attributes:** Technical

**Components:** LAB: Laboratory

## DIT 150 (3 credit hours)

### Power Trains

Covers the theory and operation of the power train systems on medium and heavy duty trucks. Covers the diagnosis and repair techniques of the power train system. Lecture: 3 credits (45 contact hours).

**Co-requisite:** DIT 151.

**Attributes:** Technical

**Components:** LEC: Lecture

## DIT 151 (2 credit hours)

### Power Trains Lab

Provides practical applications of concepts taught in DIT 150. Explains clutches, transmissions, and drive axles on medium and heavy-duty trucks. Laboratory: 2 credits (90 contact hours).

**Co-requisite:** DIT 150.

**Attributes:** Technical

**Components:** LAB: Laboratory

## DIT 152 (3 credit hours)

### Powertrain for Construction Equipment

Students learn the theory and principles of the operation of power transmissions. They learn to diagnose and repair power train units including torque connectors, standard and automatic transmissions. Lecture: 3 credits (45 contact hours).

**Attributes:** Technical

**Components:** LEC: Lecture

**DIT 153 (2 credit hours)**

**Powertrain for Construction Equipment Lab**

Students troubleshoot, disassemble, evaluate parts and reassemble components of a power train system, such as torque connectors, standard and automatic transmissions, and drive lines. Laboratory: 2 credits (90 contact hours).

**Attributes:** Technical

**Components:** LAB: Laboratory

**DIT 160 (3 credit hours)**

**Steering and Suspension**

Covers the theory, operation and diagnosis of the steering and suspension system on medium and heavy duty trucks. Lecture: 3 credits (45 contact hours).

**Co-requisite:** DIT 161.

**Attributes:** Technical

**Components:** LEC: Lecture

**DIT 161 (2 credit hours)**

**Steering and Suspension Lab**

Provides practical applications of concepts taught in DIT 160. Introduces the skills necessary to diagnosis and repair truck suspension systems, wheel alignment, and wheel balancing. Laboratory: 2 credits (90 contact hours).

**Pre-requisite:** DIT 160.

**Attributes:** Technical

**Components:** LAB: Laboratory

**DIT 180 (3 credit hours)**

**Brakes**

Covers the operational theory and application of air brakes, hydraulic brakes and anti-lock brake systems. Covers the function and repair of disc brakes and drums brakes. Lecture: 3 credits (45 contact hours).

**Co-requisite:** DIT 181.

**Attributes:** Technical

**Components:** LEC: Lecture

**DIT 181 (2 credit hours)**

**Brakes Lab**

Provides hands on activities related to the concepts covered in DIT 180. Supports the inspection, diagnosis, and repairs on air and hydraulic powered braking systems found on medium and heavy-duty trucks. Laboratory: 2 credits (90 contact hours).

**Co-requisite:** DIT 180.

**Attributes:** Technical

**Components:** LAB: Laboratory

**DIT 190 (3 credit hours)**

**Electrical Systems for Diesel Equipment**

Covers the operation and diagnosis of the truck electrical system including the battery, starter, alternator, lighting and accessories. Lecture: 3 credits (45 contact hours).

**Co-requisite:** DIT 191.

**Attributes:** Technical

**Components:** LEC: Lecture

**DIT 191 (2 credit hours)**

**Electrical Systems for Diesel Equipment Lab**

Provides hands on activities related to the concepts covered in DIT 190. Supports inspection, diagnosis, and repairs on batteries, starters, alternators, and accessory systems found on medium and heavy-duty trucks. Laboratory: 2 credits (90 contact hours).

**Co-requisite:** DIT 190.

**Attributes:** Technical

**Components:** LAB: Laboratory

**DIT 198 (1 credit hours)**

**Practicum**

The Practicum provides supervised on-the-job work experience related to the student's education objectives. Students participating in the Practicum do not receive compensation. Practicum: 1 credit (75 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** PCM: Practicum

**DIT 199 (1 credit hours)**

**Cooperative Education**

The cooperative education program provides supervised on-the-job work experience related to the students education objectives. Students participating in the Cooperative Education Program normally receive compensation. Co-op: 1 credit (75 contact hours).

**Pre-requisite:** Permission of Instructor.

**Attributes:** Technical

**Components:** COP: Co-op