

## Transportation Technology/Diesel

### Level II Unit Outline

#### **Unit 1: Safety and First Aid**

- Identify safety concerns in the shop.
- Protective clothing/equipment- Safety glasses, boots, pants, gloves etc.
- Identify safety equipment i.e., fire extinguishers, eye wash etc.
- Demonstrate first aid procedures.
- OSHA
- Tool safety
  - Hand tool safety
  - Power tool safety
- Shop equipment safety
- Spills, Blood Borne Pathogens (BBP's)
- Around the vehicle safety
- Hazards in the work place

#### **Unit 2: Steering Systems**

- Identify steering column concerns and components
- Identify, inspect, and perform components of steering
- Inspect, align, and lubricate steering linkage

#### **Unit 3: Suspension Systems**

- Front axle components, concerns and repair
- Axle aligning devices and tandem suspension components and repair
- Air suspension pressure and ride-ability concerns and repairs

#### **Unit 4: Wheel Alignment Diagnosis, Adjustment & Repair**

- Identify causes for misalignments in heavy trucks
- Wheel alignment components and functions
- Identifying turning/Ackerman angles and repairs

#### **Unit 5: Wheels and Tires**

- Identify Tire Problems/Concerns in heavy trucks
- Installation of drive axle wheel/tire assemblies
- Tire, wheel, and rim application

**Unit 6: Frame and Coupling Devices**

- Inspect and service of fifth wheel frame devices
- Inspect and service of frames and frame members.
- Inspect, install and repair framing hardware in frames of heavy trucks

**Unit 7: A/C System Diagnosis and Repair**

- Identify and interpret A/C system information and concerns
- Testing of A/C systems for performance, noises, and refrigerant type
- Refrigerant oil in A/C systems

**Unit 8: Refrigeration System Component Diagnosis and Repair**

- Diagnose, inspect, test and repair A/C systems compressor components
- Identify electrical and filter components in A/C systems using industry standards
- Repair of A/C condensers, receivers, and evaporators in A/C systems using industry standards

**Unit 9: Heating, Ventilation, and Engine Cooling Systems Diagnosis and Repair**

- Diagnose temperature control and pressure concerns
- Inspect, repair, replace cooling and heater systems parts and fluids
- Inspect, test, and repair parts in heating/cooling systems

**Unit 10: Operating Systems and Related Controls Diagnosis and Repair**

- Electrical controls and diagnosis
- Diagnose malfunctions in electrical components of A/C-heater systems
- Auto and semi-auto control systems

**Unit 11: Refrigerant Recovery, Recycling and Handling**

- Maintenance of refrigerant equipment
- Handling and storing of refrigerants

Transportation Technology/Diesel  
New Jersey Student Learning Standards (NJSLS)

**NJ Learning Standards: CTE.9.3**

<b>CONTENT AREA:</b>	<b>9.3 CAREER AND TECHNICAL EDUCATION</b>
<b>TRANSPORTATION, DISTRIBUTION &amp; LOGISTICS CAREER CLUSTER<sup>®</sup></b>	
<b>Number</b>	<b>Standard Statement</b>
<i>By the end of Grade 12, Career and Technical Education Program completers should be able to:</i>	
<b>CAREER CLUSTER<sup>®</sup>:</b>	<b>TRANSPORTATION, DISTRIBUTION &amp; LOGISTICS (TD)</b>
<b>PATHWAY:</b>	<b>SALES &amp; SERVICE (TD-SAL)</b>
<b>9.3.12.TD-SAL.1</b>	<b>Analyze the ongoing performance of transportation, logistics and distribution-related sales and service operations.</b>
<b>9.3.12.TD-SAL.2</b>	<b>Demonstrate the use of sales and ongoing service of products and services that are transportation related to promote development of existing and future clients and customers.</b>