

Transportation Technology/Auto

Level IV Unit Outline

Unit 1: Safety in the Shop

- 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: Engine Performance

- General engine diagnosis
 - Identify customer concerns and vehicle history
 - Engine malfunction diagnosis
 - Engine cylinder diagnosis
 - Engine components diagnosis
- Computerized engine controls
 - Trouble codes
 - Testing computerized controls
- Ignition systems
 - Ignition system related problems
 - Inspect, test and replace ignition components
 - Fuel, air induction and exhaust systems
 - Fuel systems, diagnose and repair
 - Air induction systems, diagnose and repair
 - Exhaust systems, diagnose and repair
- Emission control systems
 - PCV and EGR systems
 - Air injection systems

- Evaporative Emissions
- Engine related service
 - Basic engine servicing
 - Fans and fasteners

Unit 3: Engine Repair

- General engine diagnosis; removal and reinstallation (R&R)
 - Identify customer concerns and vehicle history
 - Engine malfunction diagnosis
 - Engine cylinder diagnosis
 - Engine removal and reinstall
- Cylinder head and valve train
 - Cylinder head diagnosis
 - Valve train diagnosis
 - Camshaft and drive belt components diagnosis
- Engine block assembly
 - Block and cylinder
 - Crankshaft, rods, and pistons
- Lubrication and cooling systems
 - Lubrication systems; oil pressure, oil pump, drive belts, tensioners, and pulleys
 - Cooling systems; pressure tests, system inspection, water pump, radiator, switches, sensors, and fans and other related components.

Unit 4: Career Planning 9.2 Career Awareness, Exploration and Preparation

- Review career goals and determine steps necessary for attainment.
- Apply for scholarship opportunities.
- Modify personalized student learning plans and update career portfolio.
- Identify transferrable career skills and design alternate career plans.
- Prepare for certification testing and participate in all applicable certification opportunities.
- Practice employment laws and best practices while in school and at work.
- Engage in best practices regarding personal and financial behavior and employability.

Unit 5: Cooperative Industrial Education (SLE)

- Meet with CIE coordinators to plan SLE experiences.
- Follow all District requirements for SLE experiences.

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

NJ Learning Standards: CTE.9.3

CONTENT AREA:	9.3 CAREER AND TECHNICAL EDUCATION
TRANSPORTATION, DISTRIBUTION & LOGISTICS CAREER CLUSTER[®]	
Number	Standard Statement
<i>By the end of Grade 12, Career and Technical Education Program completers should be able to:</i>	
CAREER CLUSTER[®]:	TRANSPORTATION, DISTRIBUTION & LOGISTICS (TD)
PATHWAY:	SALES & SERVICE (TD-SAL)
9.3.12.TD-SAL.1	Analyze the ongoing performance of transportation, logistics and distribution-related sales and service operations.
9.3.12.TD-SAL.2	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.