

CURRICULUM MAP
Cluster: Transportation, Distribution and Logistics
CTE Program of Study: TR1740 Diesel Equipment Technology

STANDARD	%	SKILL SET/COMPETENCY	REQUIRED CORE COURSES FOR COMPLETION			
			1751 Fundamentals of Diesel Equipment Technology	1744 Electronic Engine Controls	1741 Diesel Engine Components	1747 Diesel Support Systems
Safety	6%	Demonstrate understanding of fire safety	X	X	X	X
		Demonstrate understanding of personal, environmental, and equipment safety	X	X	X	X
Shop Practices, Tools, and Equipment	14%	Perform precision measuring (e.g., micrometers, torque meters)	X	X	X	X
		Exhibit familiarity with basic fabrication techniques	X	X	X	X
		Identify and select lines and fittings (e.g., SAE flare, pipe, hoses, tubing)	X	X	X	X
		Identify, select, and use hand tools	X	X	X	X
		Identify, select, and use basic shop equipment	X	X	X	X
		Identify and select proper fasteners	X	X	X	X
Diesel Engines	23%	Display knowledge of diesel technology terminology	X	X	X	X
		Display knowledge of diesel engine operation	X	X	X	X
		Display understanding of exhaust and induction systems, including exhaust management systems	X			
		Identify components and functions of cooling systems	X			X
		Display understanding of engine electronics and multiplexing			X	
		Identify components and functions of lubricating systems			X	
		Identify components and functions of fuel systems			X	X
		Display knowledge of diesel engine disassembly				

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		Display knowledge of diesel engine assembly				
Suspension and Steering	12%	Identify, maintain, and repair tires, rims, and wheels	X			
		Identify and repair chassis components	X			
		Identify, maintain, and repair power steering systems				
		Identify, maintain, and repair steering axle components				
		Identify, maintain, and repair suspension types (i.e., front, rear)				
		Maintain proper vehicle alignment				
Brakes	11%	Identify, inspect, and repair hydraulic foundation brake system components and functions	X			
		Identify and inspect ABS, ATC, and VSS	X			
		Identify, inspect, and repair air foundation brake system components and functions	X			
		Identify and inspect supply system components	X			
		Identify, inspect, and repair air system components	X			
Electrical and Electronic Systems	11%	Apply understanding of basic electrical principles	X	X		
		Apply understanding of electrical schematics	X	X		
		Service and inspect batteries	X	X		
		Diagnose and repair starting systems	X	X		
		Diagnose and repair lighting systems	X	X		
		Diagnose and repair charging systems	X	X		
Drivetrains	10%	Inspect and adjust the clutch	X			
		Diagnose and repair transmissions (i.e., manual, automatic, hybrids)				

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		Interpret drive line angles and perform failure analysis on U-joints				
		Install and replace U-joints				
		Diagnose and display understanding of differentials functionality, including interaxles				
Preventive Maintenance	13%	Perform troubleshooting and preventive maintenance on engine systems	X		X	
		Perform troubleshooting and preventive maintenance on transmissions (i.e., manual, automatic, hybrids)			X	
		Perform troubleshooting and preventive maintenance on cooling and lubrication systems			X	X
		Perform troubleshooting and preventive maintenance on brake systems			X	
		Perform troubleshooting and preventive maintenance on frame and chassis			X	
		Perform troubleshooting and preventive maintenance on clutch and drivetrain			X	