ACCREDITATION

PROFESSIONAL TECHNICAL

PROGRAM OUTCOMES

Diesel and Heavy Equipment Technology

Diesel and Heavy Equipment Technology One Year Certificate
1. Identify tools, use measuring tools, jacks, hoists and overhead cranes used in industry. (SLO 6.1 & 7.1)
2. Learn safety and industry work habits including timeliness and attendance. (SLO 6.1, 6.2, 6.3 & 6.4)
3. Identify parts of a small gasoline motor (SLO 7.1)
4. Demonstrate basic welding techniques with appropriate safety procedures (SLO 5.1, 6.3 & 6.4)
5. Identify and name diesel exhaust and after treatment systems. (SLO 6.1 & 7.1)
6. Identify and disassemble steering components and understanding power steering components, demonstrate testing power steering systems. (SLO 4.1, 5.1, 6.2, 6.4, & 7.2)
7. Understand air brake and hydraulic brake systems. (SLO 5.1 & 7.1)
8. Perform computerized alignment, use laser technology to align axles to frame and adjust axle bearings. (SLO 4.1, 5.1, 6.1, 6.4, & 7.2)
9. Demonstrate tire repair, installation and proper torquing of bolts and nuts (SLO 5.1, 6.1, 6.3 & 7.2)
10. Identify and install foundation brake parts, adjust brakes, and bleed hydraulic brakes. (SLO 4.1, 5.1, 6.3 & 7.2)
11. Calculate gear ratios, set of differential back lash, replace and adjust a clutch assembly. (SLO 4.1, 5.1, 6.3, & 6.5)
12. Disassemble and reassemble manual and automatic transmissions. (SLO 4.1, 5.1, 6.2, & 6.4)
13. Disassemble and reassemble truck differentials. (SLO 4.1, 5.1, 6.2, & 6.4)
14. Read ISO and ANSI hydraulic schematics Disassemble and reassemble hydraulic pumps, actuators and cylinders, troubleshoot basic hydraulic systems. (SLO 5.1 & 7.2)
15. Earn a forklift operator certification for class four and class five counterbalance forklifts. (SLO 5.1 & 6.3)
16. Build professional resume, (SLO 1.2 & 6.3)

Diesel and Heavy Equipment Technology Two year Certificate
Includes all the competencies from the 1 year certificate plus the following:
1. Understand electrical theory and circuits, calculate current, resistance and voltage using ohms law, repair a starter and alternator. (SLO 2.2, 5.1, & 7.3)
2. Test and diagnose cranking systems, charging systems, batteries, and perform main functions of a dmm (digital multi meter) (SLO 4.1, 5.1, 6.1, 6.2 & 7.3)
3. Test and diagnose parasitic drains, perform preventative maintenance procedures and voltage drop tests. (SLO 4.1, 5.1, 6.1, 6.2 & 7.3)
4. Diagnose and repair basic lighting issues, read ISO and ANSI electrical wiring diagrams and use industry scan and diagnostic equipment. (SLO 2.2, 4.1, 5.1, 6.1, 6.2 & 7.3)
5. Understand diesel engine theory, disassemble and reassemble diesel engines. (SLO 4.1, 5.1, 6.1, 6.3 & 7.3)
6. Understand diesel fuel injection system operations and repair. (SLO 4.1, 5.1, 6.1, & 7.1)
7. Know basic HVAC system functions and parts, recover Freon gasses from air conditioning systems, perform basic test for leaks in HVAC systems, and the ability to diagnose of air conditioning systems malfunctions. (SLO 4.1, 5.1, 6.1, 6.3, 6.4, & 7.3)

8. Test and identify engine sensors Ignition systems for gasoline engines, understand emission systems for diesel engines systems and gasoline engines. (SLO 4.1, 5.1, 6.1, & 7.1)

9. Understand truck engine brake systems (Jake and Exhaust brakes) (SLO 4.1, 5.1, 6.1, 6.2 & 7.3)

Diesel and Heavy Equipment Technology Degree (AAS, AAS-T)
Includes all the competencies from the 1 and 2 year certificates plus the following:

1. Demonstrate entry level industry competency through 80 hours of industry internship (SLO 1.2, 3.1, 3.2, 4.1, 5.1, 6.2, 6.3, 6.4 & 7.3)

2. Demonstrate computational abilities by applying industry standards of imbedded mathematics. (SLO 3.1 & 3.2)

3. Demonstrate industry applied technical writing skills including repair order writing (SLO 1.2 & 6.3)

4. Demonstrate the ability to read manual at industry standards (SLO 1.1 & 6.1)

5. Demonstrate computing technology skills keyboarding, Excel spreadsheets, and fleet management software. (SLO 5.1, 6.1 & 7.3)

6. Complete technical specialty courses in advanced engine diagnoses, welding and welding fabrication. (SLO 6.1, 7.1 & 7.3)

7. Demonstrate effective human relations with service writers, parts personnel, and customers. (SLO 3.1, 3.2 & 6.1)