Western Technical College

32412409 Diesel Advanced Engines

Course Outcome Summary

Course Information

Description	This course is a practical study in the procedures associated with diagnosis and repair of electronically controlled engines and exhaust after treatment systems.
Career Cluster	Transportation, Distribution and Logistics
Instructional Level	Technical Diploma Courses
Total Credits	2
Total Hours	72

Pre/Corequisites

Prerequisite	32412400 Diesel Truck Preventive Maintenance
Prerequisite	32412401 Diesel Truck Powertrains
Prerequisite	32412351 DIesel Truck Brake Systems
Prerequisite	32412402 Diesel Truck Chassis Systems
Prerequisite	32412403 Diesel Online Service Utilization
Prerequisite	32412404 Diesel Safety and Industry Practices
Prerequisite	32412405 DIesel Heavy Truck and Forklift Familiarization
Prerequisite	32412406 Diesel Electricity Fundamentals
Prerequisite	32412407 Diesel Electricity Troubleshooting
Prerequisite	32412303 Diesel Basic Engines

Textbooks

Fundamentals of Medium/Heavy Duty Diesel Engines. Copyright 2015. Wright, Gus. Publisher: Jones & Bartlett Publishers. **ISBN-13**:978-1-284-06705-7. Required.

Learner Supplies

Safety glasses with side eye protection that meet Z87 OSHA guidelines. **Vendor:** To be discussed in class. Required.

Six inch ankle high, quality leather work shoes - $75.00-100.00. **Vendor:** To be discussed in class. Required.

Uniform: Four black/grey shirts with embroidered name. **Vendor:** Campus Shop. Required.

Success Abilities

1. Cultivate Passion: Expand a Growth-Mindset
2. Live Responsibly: Embrace Sustainability
3. Live Responsibly: Foster Accountability
4. Refine Professionalism: Participate Collaboratively
5. Refine Professionalism: Practice Effective Communication

High Impact Practices

1. Learning Community: these courses are designed to enhance your learning experience in which a cohort of peers complete two or more courses that are linked through projects, themes, or program emphasis.

Program Outcomes

1. Diagnose, repair and service diesel engines

Course Competencies

1. Perform general engine performance diagnosis and repair on live engines.

Assessment Strategies

1.1. Skill Demonstration

Criteria

You will know you are successful when:

1.1. you perform critical steps from task sheets in the right order from start to finish.
1.2. you complete lab task sheets with a minimum score of two.
1.3. you verbalize sound reasoning for the decisions made throughout the process.
1.4. you follow safety procedures
1.5. you select the correct tools, equipment, instruments, materials, and supplies.
1.6. you attend class regularly and on time, and you meet criteria for successful completion of written products: lab sheets, presentations, and case studies.

Learning Objectives

1.a. Check for engine codes.
1.b. Diagnose needed repair.
1.c. Repair problem on engine.

2. Perform exhaust and air intake diagnosis and repair on live engines.

Assessment Strategies

2.1. Skill Demonstration

Criteria

You will know you are successful when:

2.1. you perform critical steps from task sheets in the right order from start to finish.
2.2. you complete lab task sheets with a minimum score of two.
2.3. you verbalize sound reasoning for the decisions made throughout the process.
2.4. you follow safety procedures.
2.5. you select the correct tools, equipment, instruments, materials and supplies.
2.6. you attend class regularly and on time, and you meet criteria for successful completion of written products: lab sheets, presentations, and case studies.

Learning Objectives

2.a. Inspect air system for performance issues.

3. Perform fuel supply system diagnosis and repair on live engines.

Assessment Strategies

3.1. Skill Demonstration

Criteria

You will know you are successful when:

3.1. you perform critical steps from task sheets in the right order from start to finish.
3.2. you complete lab task sheets with a minimum score of two.
3.3. you verbalize sound reasoning for the decisions made throughout the process.
3.4. you follow safety procedures.
3.5. you select the correct tools, equipment, instruments, materials and supplies.
3.6. you attend class regularly and on time, and you meet criteria for successful completion of written products: lab sheets, presentations, and case studies.

Learning Objectives

3.a. Check for fuel leaks.
3.b. Check for fuel related performance issues.