



Western Technical College

32412303 Diesel Basic Engines

Course Outcome Summary

Course Information

Description	This course is a practical study in performing diesel engine component familiarization and inspection.
Career Cluster	Transportation, Distribution and Logistics
Instructional Level	Technical Diploma Courses
Total Credits	3
Total Hours	108

Textbooks

Fundamentals of Medium-Heavy Duty Diesel Engines. Copyright 2017. 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: Enhance Personal Connections

2. Cultivate Passion: Expand a Growth-Mindset
3. Cultivate Passion: Increase Self-Awareness
4. Live Responsibly: Develop Resilience
5. Live Responsibly: Embrace Sustainability
6. Live Responsibly: Foster Accountability
7. Refine Professionalism: Act Ethically
8. Refine Professionalism: Improve Critical Thinking
9. Refine Professionalism: Participate Collaboratively
10. 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. Identify engine components.

Assessment Strategies

- 1.1. Written Objective Test
- 1.2. Skill Demonstration

Criteria

You will know you are successful when:

- 1.1. you complete lab task sheets with a minimum score of two.
- 1.2. you earn a minimum of 70% on written exams.
- 1.3. you attend class regularly to participate in skill demonstration.
- 1.4. you follow safety procedures.

Learning Objectives

- 1.a. Identify engine components by name.
- 1.b. Describe purpose of engine components.
- 1.c. Describe location of engine components.

2. Perform engine disassembly and reassembly on static engines.

Assessment Strategies

- 2.1. Skill Demonstration

Criteria

You will know you are successful when:

- 2.1. you follow safety procedures.
- 2.2. you perform critical steps from task sheets in the right order from start to finish.
- 2.3. you are able to verbalize sound reasoning for the decisions made throughout the process.
- 2.4. you identify engine components per task sheets.
- 2.5. you complete lab task sheets with a minimum score of two.
- 2.6. you attend class regularly to participate in skill demonstration.

Learning Objectives

- 2.a. Disassemble engine in established order.
- 2.b. Inspect components of engine.
- 2.c. Reassemble in proper order.

3. Investigate cylinder head and valve train on static engines.

Assessment Strategies

- 3.1. Skill Demonstration
- 3.2. Written Objective Test

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 are able to verbalize sound reasoning for the decisions made throughout the process.
- 3.3. you identify engine components per task sheets.
- 3.4. you complete lab task sheets with a minimum score of two.
- 3.5. you earn a minimum of 70% on written exams.
- 3.6. you attend class regularly to participate in skill demonstration.

Learning Objectives

- 3.a. Disassemble head in proper order.
- 3.b. Inspect cylinder head for reuse.
- 3.c. Reassemble cylinder head in proper order.

4. Inspect the engine block on static engines.

Assessment Strategies

- 4.1. Skill Demonstration

Criteria

You will know you are successful when:

- 4.1. you perform critical steps from task sheets in the right order from start to finish.
- 4.2. you are able to verbalize sound reasoning for the decisions made throughout the process.
- 4.3. you identify engine components per task sheets.
- 4.4. you complete lab task sheets with a minimum score of two.
- 4.5. you attend class regularly to participate in skill demonstration.

Learning Objectives

- 4.a. Disassemble engine block.
- 4.b. Determine reusable internal parts of engine block.
- 4.c. Reassemble engine block in proper order.

5. Inspect engine oil pump on static engines.

Assessment Strategies

- 5.1. Skill Demonstration

Criteria

You will know you are successful when:

- 5.1. you perform critical steps from task sheets in the right order from start to finish.
- 5.2. you are able to verbalize sound reasoning for the decisions made throughout the process.
- 5.3. you identify engine components per task sheets.
- 5.4. you complete lab task sheets with a minimum score of two.
- 5.5. you attend class regularly to participate in skill demonstration.

Learning Objectives

- 5.a. Inspect oil pump.
- 5.b. Inspect oil pressure regulator valve.

6. Investigate air induction and exhaust systems on static engines.

Assessment Strategies

- 6.1. Written Objective Test
- 6.2. Skill Demonstration

Criteria

You will know you are successful when:

- 6.1. you perform critical steps from task sheets in the right order from start to finish.
- 6.2. you are able to verbalize sound reasoning for the decisions made throughout the process.
- 6.3. you identify engine components per task sheets.
- 6.4. you complete lab task sheets with a minimum score of two.
- 6.5. you earn a minimum of 70% on written exams.
- 6.6. you attend class regularly to participate in skill demonstration.

Learning Objectives

- 6.a. Inspect air intake systems.
- 6.b. Inspect exhaust systems.