

**DET 179 Course Outline as of Fall 2014****CATALOG INFORMATION**

Dept and Nbr: DET 179 Title: DIESEL SHOP PRACTICES

Full Title: Diesel Shop Practices

Last Reviewed: 1/22/2018

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.25	17.5	Lecture Scheduled	39.38
Minimum	3.00	Lab Scheduled	2.25	8	Lab Scheduled	39.38
		Contact DHR	0		Contact DHR	0
		Contact Total	4.50		Contact Total	78.75
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 78.75

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable

Grading: Grade Only

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly: DET 80

**Catalog Description:**

Introduction to diesel equipment and truck repair. Includes overview of trucks, agricultural equipment and construction equipment. Workplace skills, safety, tool use and career information are included.

**Prerequisites/Corequisites:****Recommended Preparation:**

Eligibility for ENGL 100 or ESL 100

**Limits on Enrollment:****Schedule of Classes Information:**

Description: Introduction to diesel equipment and truck repair. Includes overview of trucks, agricultural equipment and construction equipment. Workplace skills, safety, tool use and career information are included. (Grade Only)

Prerequisites/Corequisites:

Recommended: Eligibility for ENGL 100 or ESL 100

Limits on Enrollment:

Transfer Credit:

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	Effective:	Inactive:
<b>CSU GE:</b>	<b>Transfer Area</b>	Effective:	Inactive:

<b>IGETC:</b>	<b>Transfer Area</b>	Effective:	Inactive:
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<b>CSU Transfer:</b>	Effective:	Inactive:
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<b>UC Transfer:</b>	Effective:	Inactive:
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**CID:**

**Certificate/Major Applicable:**

Both Certificate and Major Applicable

## **COURSE CONTENT**

### **Outcomes and Objectives:**

Upon successful completion of this course, the student will be able to:

1. Describe the general layout and function of truck, agricultural equipment and construction equipment components.
2. Summarize general and specific industrial shop safety standards in a specific shop setting.
3. Demonstrate the appropriate use and maintenance of hand, shop, and precision tools.
4. Correctly identify fasteners and evaluate appropriate use for each type.
5. Compare theory of operation of basic systems on trucks, agricultural equipment, and construction equipment.
6. Describe the environmental issues and choose appropriate procedures for the disposal of hazardous materials.
7. Discuss the diesel repair industry career field and employment opportunities.

### **Topics and Scope:**

1. Introduction
  - a. Overview of trucks
  - b. Overview of agricultural equipment
  - c. Overview of construction equipment
2. Engine operating principles
3. Powertrain operating principles
  - a. Mechanical drivetrain
  - b. Hydrostatic drivetrain
4. Electrical system operation
5. Fuel system operation
6. Steering and suspension operation
7. Brake system operation
8. Career information
  - a. Categories of industrial occupations
  - b. Wages, salaries, benefits

- c. Local and regional opportunities
- d. Shop expectations, practices, and routines
- 9. Shop safety standards and practices
  - a. Fire and disaster procedures
  - b. Cleanliness and order in the workplace
  - c. Fire and emergency prevention and intervention practices
  - d. Proper lifting procedures
  - e. Personal safety practices
  - f. Environmental health and safety compliance
- 10. Use and maintenance of hand, shop and precision tools
  - a. Precision measuring tools
  - b. Hand and shop tools
  - c. Tool and equipment maintenance
- 11. Fasteners and mechanical fitting devices
  - a. Appropriate fastener use
  - b. Fastening techniques
  - c. Fitting application
  - d. General torque specifications

**Assignment:**

- 1. Reading 25 pages per week
- 2. Complete vehicle identification worksheets
- 3. Complete shop safety and hazardous materials identification worksheets
- 4. Identify tools and fasteners, complete worksheets
- 5. 3 to 5 exams including a final exam

**Methods of Evaluation/Basis of Grade:**

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

Worksheets

Writing  
0 - 20%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Tool and fastener identification

Problem solving  
20 - 30%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Vehicle component identification, shop safety, hazardous material identification worksheets

Skill Demonstrations  
10 - 30%

**Exams:** All forms of formal testing, other than skill performance exams.

3 to 5 exams including a final exam

Exams  
20 - 50%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

None

Other Category  
0 - 0%

**Representative Textbooks and Materials:**

Heavy Duty Truck Systems, Thompson Learning, 5th ed., 2011  
Instructor prepared materials