

MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

COURSE OUTLINE

DEPT. DSL

COURSE NUMBER: 1135

NUMBER OF CREDITS: 3

Lecture: 1 Lab: 2 OJT 0

Course Title:

Fuel Injection Principles

Catalog Description:

Fuel Injection Principles explains and demonstrates diesel engine operation with fuel systems, the basic repair and rebuilding of injectors and timing of the fuel system to the engine.

Prerequisites or Necessary Entry Skills/Knowledge:

None

FULFILLS MN TRANSFER CURRICULUM AREA(S)

- Goal 1: Communication: By meeting the following competencies:
- Goal 2: Critical Thinking: By meeting the following competencies:
- Goal 3: Natural Sciences: By meeting the following competencies:
- Goal 4: Mathematics/Logical Reasoning: By meeting the following competencies:
- Goal 5: History and the Social and Behavioral Sciences: By meeting the following competencies:
- Goal 6: The Humanities and Fine Arts: By meeting the following competencies:
- Goal 7: Human Diversity: By meeting the following competencies:
- Goal 8: Global Perspective: By meeting the following competencies:
- Goal 9: Ethical and Civic Responsibility: By meeting the following competencies:
- Goal 10: People and the Environment: By meeting the following competencies:

Topics to be Covered

Combustion chambers

Injectors

Engine timing

Fuel delivery

Student Learning Outcomes

Demonstrate injector test procedures

Reassemble and adjust injectors to manufacture specifications

Set and adjust timing on engines

Clean and repair injectors

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| Discuss combustion |
| Analyze the operation of an injector using a tester and identify repair necessary |
| Explain the effect on performance of an engine dependent on operation |
| Reference the stages of combustion and burning of fuel |
| Describe combustion chamber designs |
| Operate injectors |

Is this course part of a transfer pathway: Yes No

Revised Date: 8/2021