

# MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

## COURSE OUTLINE

DEPT. DSL

COURSE NUMBER: 1130

NUMBER OF CREDITS: 3

Lecture: 1 Lab: 2 OJT 0

### Course Title:

Hydraulics Theory and Application

### Catalog Description:

Hydraulics Theory and Application discusses the principles and fundamentals of hydraulics. The student will work on various components and systems as related to diesel hydraulics within a laboratory environment.

### 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:

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### Topics to be Covered

Hydraulic pumps

Control valves

Cylinders

Motors

### Student Learning Outcomes

Analyze the operation different hydraulic pump's gear, piston, and vane type.

Troubleshoot the effect on performance of the engine dependent on operation.

Identify the repair necessary for proper operation of the hydraulic system.

Repair each type of pump.

Inspect and test control valves.
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Repair a hydraulic cylinder.
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<b>Is this course part of a transfer pathway: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></b>
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Revised Date: 8/2021