

MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

COURSE OUTLINE

DEPT. MECH

COURSE NUMBER: 2130

NUMBER OF CREDITS: 4

Lecture: 2 Lab: 2 OJT: 0

Course Title:

Advanced Fluid Power Systems II

Catalog Description:

Advanced Fluid Power Systems II provides students advanced fluid power theory and application for product specification and selection, design, service and fabrication.

Prerequisites or Necessary Entry Skills/Knowledge:

MECH 2105

FULFILLS MN TRANSFER CURRICULUM AREA(S) (*Leave blank if not applicable*)

- 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

Light, medium and heavy-duty hydrostatics

Noise levels and dew points

Hydraulic joystick controllers

Load sensing and Filtration circuits

Horse power limiter and pressure pumps

Design and testing of hydraulic motors

Mobile valve systems

Pilot controlled dcv

Component research and availability

Programming cylinder positioning
Accumulators
Design circuit per specifications

Student Learning Outcomes

Identify and control potential safety hazards and implement safe working practices.
Identify hydrostatic components.
Research product specifications and availability.
Understand various fluid power controls and sensing.
Rebuild and repair fluid power components.
Demonstrate various pump controls.
Determine system filtration requirements.
Design various hydraulic and pneumatic circuits.

Is this course part of a transfer pathway: Yes No

*If yes, please list the competencies below

Revised Date: 2/2/2022