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 dev
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