

MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

COURSE OUTLINE

DEPT. DSL

COURSE NUMBER: 2106

NUMBER OF CREDITS: 3

Lecture: 3 Lab: 0 OJT 0

Course Title:

Advanced Powertrain Theory

Catalog Description:

Advanced Powertrain Theory explains the theory of operation of various power shift transmissions, power flow, and terminologies as related to various manufacturers. This course covers the theory of operation of electro hydraulic systems as well as a wide variety of power train systems from Ag equipment, industrial, and truck when and where available.

Prerequisites or Necessary Entry Skills/Knowledge:

DSL1120 or DSL1125

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

Electro-hydraulically controlled transmissions

Advanced drive trains

Computer controlled powertrain systems

Power and hydraulic flows

Student Learning Outcomes

Discuss power shift, shuttle transmissions, hydro/ IVT and other new systems

Explain electrical hydraulics and testing different systems

Define high-pressure and low-pressure standby

Describe computer controlling powertrain systems

Research manuals for information on powertrain systems

Determine power flows

Describe procedures for hydraulic testing

Is this course part of a transfer pathway: Yes No

Revised Date: 8/2021