

# MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

## COURSE OUTLINE

**DEPT. DSL**

**COURSE NUMBER: 1120**

**NUMBER OF CREDITS: 2**

**Lecture: 2 Lab: 0 OJT 0**

<b>Course Title:</b>
Powertrain Principles

<b>Catalog Description:</b>
Powertrain Principles explains theory of clutch, pressure plate assembly, standard transmissions, differentials, power take-off, brakes, axles, and components that compliment powertrain operations.

<b>Prerequisites or Necessary Entry Skills/Knowledge:</b>
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:

<b>Topics to be Covered</b>
Powertrain Fundamentals
Powertrain Service
Powertrain Repair
Powertrain Diagnosis

<b>Student Learning Outcomes</b>
Describe a manual transmission
Diagnose powertrain component issues
Explain how clutches operate
Discuss drivetrain operations

List steps for servicing powertrains
Identify powertrain repair procedures

<b>Is this course part of a transfer pathway: Yes</b> <input type="checkbox"/> <b>No</b> <input checked="" type="checkbox"/>

Revised Date: 8/2021