**Course Title:**
Advanced Engine Lab

**Catalog Description:**
Advanced Engine Lab provides hands-on shop experiences. Students will practice reconditioning of the larger and electronically controlled engines.

**Prerequisites or Necessary Entry Skills/Knowledge:**
DSL1100 and DSL1110

**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**
- Valve cycles
- Large and Advanced Diesel Engine Repair
- Large Diesel Engine Rebuild
- Overhead Cams
- Engine braking systems
- Injectors

**Student Learning Outcomes**
- Build a valve cycle
- Disassemble and rebuild engine using the student-built cycle
- Diagnose and repair larger engines with overhead cams and multiple valve cylinders
- Diagnose and repair components such as engine braking systems and unit type injectors
Disassemble, inspect, evaluate, repair and adjust, and reassemble valve, valve train components, cylinder blocks, crankshafts, bearings, sleeves, pistons, and rings

| Is this course part of a transfer pathway: | Yes ☐ | No ☒ |

Revised Date: 8/2021