

# MINNESOTA WEST COMMUNITY & TECHNICAL COLLEGE

## COURSE OUTLINE

DEPT. AUTO

COURSE NUMBER: 2155

NUMBER OF CREDITS: 4

Lecture: 2 Lab: 2 OJT: 0

### Course Title:

Intro to Diesel Electronics

### Catalog Description:

Intro to Diesel Electronics introduces the computer system used in the diagnostics of today's electronic controlled engines and transmissions. Students will develop reports from the programs and store them for future reference and use this information to diagnose and make repairs to the unit being tested. The course will cover basic Windows operations and scanner diagnostics needed to operate the computerized systems.

### Prerequisites or Necessary Entry Skills/Knowledge:

None

### 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

Diesel fuel fundamentals

Electronic schematics and symbols

Original Equipment Manufacturer (OEM) software and diagnostic tools

Multi-meters and Oscilloscopes

Diagnostic scanners

Electrical faults

### Student Learning Outcomes

Discuss basic diesel fuel fundamentals, flow, pressure, and components

Interpret electronic schematics and symbols
Diagnose and troubleshoot fuel related issues
Describe proper maintenance procedures for diesel engines
Employ OEM software and diagnostic tools and procedures as they related to maintenance and repair
Demonstrate the use of a diagnostic scanner to connect to the vehicle's network to read and control components of an electrical system
Diagnose electrical faults using the correct tools and explain using correct terminology
Comply with personal and environmental safety practices associated with clothing; eye protection; hand tools; power equipment; proper ventilation; and the handling, storage, and disposal of chemicals/materials in accordance with local, state, and federal safety and environmental regulations
*The required outcomes follow the Auto Service Technician (AST) model of the National Automotive Technical Education Foundation (NATEF) certification program.

**Is this course part of a transfer pathway: Yes  No**

Revised Date: 6/2021