SOUTHEAST COMMUNITY COLLEGE
ADVANCED TECHNOLOGIES & SKILLED TRADES DIVISION
DIESEL TECHNOLOGY – TRUCK
COURSE SYLLABUS
November 14, 2025

I. CATALOG DESCRIPTION

Course Number: DESL2530
Course Title: Electronics & Engine Diagnostics
Prerequisite(s): DESL1111, DESL1116

Catalog Description: The advanced use of digital multi-meters and circuit diagnostic techniques, including lab scope setup and use. Engine drivability diagnostics, setting customer specified parameters, operation and adjustment of engine overhead systems.

Credit Hour: 6.0
Class Hours: 45
Lab Hours: 135
Total Contact Hours: 180

II. COURSE OBJECTIVES: *Course will:*

A. Cover electrical principles and concepts.
B. Cover electronic component principles and concepts.
C. Cover microprocessors.
D. Cover electrical schematic reading and interpretation.
E. Cover circuit repair.
F. Cover digital multi-meter and lab scope operations.
G. Cover electrical and electronic troubleshooting.
H. Cover engine tune up procedures.
I. Cover injector removal and replacement.
J. Cover engine brake adjustment.
K. Cover engine drivability troubleshooting.
L. Cover parameter adjustments.
M. Cover safety procedures related to the Hazard Communication and Globally Harmonized Systems as well as specific program rules for tool and equipment use.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

A. STUDENT LEARNING OUTCOMES: *The student will be able to:*

1. Abide by safety procedures related to the Hazard Communication and Globally Harmonized Systems, as well as, specific program rules for tool and equipment use.
2. Properly use the hand tools, measuring instruments, special tools and equipment, inspection sheets and manuals required to perform the course objectives.

B. GENERAL EDUCATION LEARNING OUTCOMES:

GELO #3: Critical Thinking & Problem Solving

Outcome(s):

1. Collect, identify, interpret and analyze data.
2. Synthesize information to arrive at reasoned solutions to problems.

IV. CONTENT/TOPICAL OUTLINE

- **A.** Identify electrical and electronic systems components and their proper operation.
- **B.** Use a performance evaluation to determine proper electrical and electronic system function.
- **C.** How to use electrical and electronic systems diagnostic and service equipment.
- **D.** Diagnosis of electrical and electronic system failures and use proper repair procedures.
- **E.** Communication of electrical and electronic system diagnosis and repairs needed properly to instructor or customer.
- **F.** Identify engine management components and their proper operation.
- **G.** Use a performance evaluation to determine proper system function.
- **H.** How to use engine management diagnostic and service equipment.
- **I.** Diagnosis of system failures and use of proper repair procedures.
- **J.** Communication of system diagnosis and repairs needed properly to instructor or customer.

V. INSTRUCTIONAL MATERIALS

The Course Information Document lists the current textbook(s), tools/equipment, and/or supplies required for this class. This list is also available from the campus bookstore.

VI. METHODS OF PRESENTATION / INSTRUCTION

A. Methods of presentation typically include a combination of the following:

1. Lecture
2. Small and large group discussion
3. Video presentation
4. Demonstrations
5. Project boards
6. Handouts
7. Observations
8. Assigned lab projects
9. Field trips

VII. METHODS OF EVALUATION

A. Methods of evaluation typically include a combination of the following:

1. Notebook
2. Quizzes
3. Tests
4. Lab grades
5. Class conduct

Letter grades will be based on the SCC Standard Grade Scale Policy. See course information document for specific details on how the course grades will be calculated.

VIII. SPECIFIC COURSE REQUIREMENTS

A. Student Must:

1. Complete all tests, projects, assignments, and notebook.
2. Earn a final grade of 70% (2.0) or higher.

B. Program Shop Safety Rules Will Be Followed. Please see the course information document for any additional safety rules established by the instructor.