SOUTHEAST COMMUNITY COLLEGE
ADVANCED TECHNOLOGIES & SKILLED TRADES DIVISION
AUTOMOTIVE STUDENT SERVICE EDUCATIONAL TRAINING (ASSET)
COURSE SYLLABUS
September 10, 2025

I. CATALOG DESCRIPTION

Course Number: ASST1360
Course Title: Ford Engine Performance
Prerequisite(s): ASST1111 & ASST1116

Catalog Description: Study of engine tune-up, oscilloscope use and Ford computer systems; computer, sensor and actuator operation, diagnosis and service. Theory, principles of operation, diagnosis and service of Ford ignition, emissions control, and fuel systems, including fuel pumps, fuel tanks, and filters. Analysis of OBD II monitors, intermittent problems, I/M testing, and gas emissions using the latest in diagnostic equipment including scopes and scanners.

Credit Hour: 6.0
Class Hours: 38
Lab Hours: 158
Total Contact Hours: 196

II. COURSE OBJECTIVES: *Course will:*

A. Cover ignition systems overview.
B. Overview fuel systems.
C. Overview emission systems.
D. Overview computer systems.
E. Overview electronic engine controls.
F. Cover Ford Web-Based training courses.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES

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

1. Theory, operation, diagnosis and repair of the ignition system
2. Theory, operation, diagnosis and repair of the fuel system
3. Theory, operation, diagnosis and repair of the emission system
4. Theory, operation, diagnosis and repair of elec. engine control systems
5. Lab time to demonstrate their understanding of these systems
6. Diagnose OBD II system
7. Reprogram a PCM
8. Study of gasoline and alternate fuel sources

B. GENERAL LEARNING OUTCOMES:

GELO #3: Critical Thinking & Problem Solving
Outcome:

1. Collect, identify, interpret and analyze data.

IV. CONTENT/UNIT OF INSTRUCTION

A. Ignition system components, theory, operation, diagnosis and service

B. Fuel system components, theory, operation, diagnosis and service
C. Fuels and testing of fuels
D. Emission control system components, theory, operation, diagnosis and service
E. Computer control system components, theory, operation, diagnosis and service
F. Use of Ford diagnostic tools
G. Use of general diagnostic tools
H. Exhaust gas analysis
I. OBD II and emissions government regulations

V. INSTRUCTIONAL MATERIALS

The Course Information Document lists the current text(s) required for this class. The list is also available in the campus bookstore. The Course Information Document also lists the tools/equipment or other supplies required for this class.

V. 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. Transparencies
5. Demonstrations
6. Project boards
7. Flip charts
8. Handouts
9. Observations
10. Assigned lab projects
11. Field trips.
12. Ford Motor Company Computer Based Training Courses

VI. METHODS OF EVALUATION

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

1. Notebook (if required)
2. Quizzes
3. Tests
4. Lab grades
5. Attendance/class conduct

Letter grades will be based on the SCC Standard Grade Scale Policy. **Note:** 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 (if required).
2. Earn a final grade of 70% (2.0) or higher to progress in the program.

B. Attendance:

1. Student must follow the Attendance Policy as stated in the college student handbook, automotive lab and classroom policies handbook or Course Information Document.

C. Shop safety rules will be followed.
D. Any additional course requirements as stipulated by the Instructor.