COURSE INFORMATION FORM

DISCIPLINE
Automotive Technology

COURSE TITLE
Electronic Engine Control

CR.HR  6    LECT HR.  3    LAB HR.  6    CLIN/INTERN HR.  

CATALOG DESCRIPTION

Solid-state electronic principles and applications on devices as utilized on late model Ford Motor company’s computer equipped vehicles. Includes Ford certifications.

PREREQUISITES

AUTO 166 and be a student in the Ford Motor Co. ASSET program.

EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)

Upon completion of this course, the student will be able to:

1. Demonstrate the cognitive and manipulative skills necessary to complete assigned tasks.

2. Describe and employ safe work habits, observing both personal safety and a concern for the safety of others.

3. Analyze diagnose and determine necessary actions to solve Ford electrical/electronic concerns.

4. Apply procedures needed to successfully perform service operations.

5. Employ effective behaviors necessary to successfully work with others.
GENERAL EDUCATION OUTCOMES (ESO)

Specify which general education outcomes, if any, are substantially addressed by the course. Numbers in parentheses identify the Expected Student Outcomes linked to the specific General Education Outcome.

1.
Program-Level Outcomes

Career and Technical Education Program Outcomes
Specify which Career and Technical program outcomes, if any, are substantially addressed by the course by completing the “Career and Technical Education template” to show the relationship between course and program outcomes to assessment measures.

1. Demonstrate the knowledge necessary to obtain industry recognized certifications.
2. Student will demonstrate or apply knowledge of basic sciences to the practices of automotive technology.
3. Students will demonstrate the knowledge of thorough application of safety rules and regulations.
4. Students will exhibit professional behavior.
5. Students will be able to use mathematics as it pertains to the Auto Technicians.

Class-Level Assessment Measures
Student accomplishment of expected student outcomes will be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

1. Written evaluation (1-4)
2. Oral evaluation (1-5)
3. Performance exams (1-3)
4. Written Laboratory assignments (1-4)
Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An *asterisk can be used to mark an item as optional.

I. Introduction of class procedures, rules, and pretest.
II. Basic electrical theory, series circuits, parallel circuits, parallel and series circuits.
III. Ohm’s Law and electrical components.
IV. Testing equipment, VOM, Ohm meter, ammeters and oscilloscopes.
V. Electronic components, diodes, resistors, thermistors.
VI. Capacitors, variable resistors, potentiometers.
VII. Zener diodes, magnetic pickups, and Hall effect devices.
VIII. Introduction of the Ford EEC system and history of EEC including all electronic systems leading through EEC V.
IX. EEC IV system operation and strategies.
X. EEC IV inputs.
XI. EEC IV outputs.
XII. EEC IV ignition systems.

XIII. EEC IV diagnosis and testing equipment.

XIV. EEC V operation strategies.

XV. EEC V inputs and outputs.

XVI. EEC V diagnosis and testing