

Date Prepared: February 9, 2005

New Revised
(Check One)

Effective Date: Fall 2006

COURSE OUTLINE

1. COURSE PREFIX and NUMBER: **ETR 295** CREDIT HOURS: 3
2. COURSE TITLE: **Computer-Based Automotive Electronics and Diagnostics**
3. PREREQUISITES: ITE 115 or CSC 155
4. COURSE DESCRIPTION: Presents the application of operating theory and diagnostic procedures on automotive computer systems. Emphasizes diagnostic procedures using PC and/or PDA based diagnostic software and on-board computers. Lecture 2 hours. Laboratory 3 hours. Total 5 hours per week.
5. CONTENT: (Major Headings)
 - a. Testing Electronic Circuits and Systems (Ford, GM, Daimler Chrysler and imports; RMS, Frequency, Hertz)
 - b. Communication signals
 - c. Introduction to user interface hardware (scan tools)
 - d. Introduction to software, operating systems, and applications for diagnostic hardware
 - e. Introduction to PCs and PDAs as interface devices
 - f. Programming concepts
6. GENERAL COURSE OBJECTIVES:

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

- a. Demonstrate a knowledge of basic computer operation
- b. Use scan tool, laptop PC, and/or PDA to reprogram the vehicle body control module
- c. Demonstrate a knowledge of diagnostic tools and procedures
- d. Diagnose problems with vehicle on-board computers
- e. Demonstrate a knowledge of vehicle on-board computer systems and their functions
- f. Activate on-board diagnostics and read trouble codes
- g. Erase diagnostic trouble codes in computerized systems