DATE SUBMITTED
DATE DICC APPROVED 12/15/09 DATE LAST REVIEWED Oct. 7, 2009

COURSE INFORMATION FORM

DISCIPLINE
Automotive Technology

COURSE TITLE
Specialized Electronics Training

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

CATALOG DESCRIPTION
Solid-state electronic principles and applications on devices as utilized on late model General Motors computer equipped vehicles. Includes GM certifications.

PREREQUISITES
AUTO 166 and class member of a General Motors ASEP class.

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 electrical/electronic concerns in all vehicle systems.
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.
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)
COURSE OUTLINE FORM

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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. Orientation and safety
   A. Syllabus
   B. Class rules and procedures
   C. Longview safety
   D. Dress and behavior code
   E. Statement of understanding
   F. Building tour
   G. School vehicle use and procedures

II. Introduction to electronic systems
   A. Electronic systems vs electrical systems
   B. Why carts use electronic systems
   C. Stand alone system
D. Network systems

III. Electrical review
   A. Define/describe electricity
   B. Electrical classification of material/matter
   C. Sources of electricity
   D. Electrical circuit
   E. Laws of electricity

IV. Measuring electricity review
   A. Volts
   B. Amps
   C. Resistance
   D. Power

V. Oscilloscopes
   A. Live
   B. Digital
   C. Automotive uses

VI. Scan tools
   A. Manufactures
   B. Generic

VII. Electronic systems operation
   A. Input
   B. Output
   C. Processing

VIII. Networks
   A. Generic
B. Manufactures

IX. Systems overview
   A. PCM
   B. ABS
   C. SRS (Air Bags)
   D. Body modules/computers

X. Testing electronic system
   A. DTC’s
   B. Diagnostic routines/shop manuals
   C. Symptom vs cause