DATE SUBMITTED 10/15/12
DATE DICC APPROVED 3/26/2013
CATALOG NO. AUTO 279
DATE LAST REVIEWED 12/15/09

COURSE INFORMATION FORM

DISCIPLINE Automotive Technology
COURSE TITLE Automotive Electronics Systems

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

CATALOG DESCRIPTION
This course builds on previous learning in automotive electrical systems. Electronic principles and theories of operation are explored in detail. Application, diagnosis and repair of automotive computer management systems will be covered.

PREREQUISITES
AUTO 100 and AUTO 166

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 electronic concerns in 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.

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>ESO</th>
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Revised 5/9/13
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. Students will demonstrate the knowledge necessary to obtain industry recognized certifications.
2. Students will demonstrate or apply knowledge of basic sciences to the practices of automotive technology.
3. Students will demonstrate the knowledge and 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 automotive technicians.

CLASS-LEVEL ASSESSMENT MEASURES
Student accomplishment of expected student outcomes may 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 (1-4)
4. Written laboratory assignments (1-5)
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. Electrical review
   A. Define/describe electricity
   B. Electrical classification of material/matter
   C. Sources of electricity
   D. Electrical circuit
   E. Laws of electricity

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

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

V. Scan tools
   A. Manufactures
   B. Generic

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

VII. Networks
A. Generic
B. Manufacturer specific

VIII. Systems overview
    A. PCM
    B. ABS
    C. SRS (air bags)
    D. Body modules/computers

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