El Paso Community College
Syllabus
Part II
Official Course Description

SUBJECT AREA	**Automotive Technology**
COURSE RUBRIC AND NUMBER	**AUMT 2337**
COURSE TITLE	**Automotive Electronics**
COURSE CREDIT HOURS	**3 2 : 4** **Credits Lec Lab**

I. Catalog Description

Studies electronic principles, applied to microcomputers and communication systems. Includes digital fundamentals, and use of electronic test equipment. May be taught manufacturer specific. Students are highly recommended that AUMT 1307 be completed before registering for AUMT 2337. **(2:4). Lab fee.**

II. Course Objectives

A. Unit I. Shop Safety
1. Comply with personal, interpersonal, and environmental safety practices associated with clothing, eye protection, and hand tools and power equipment.
2. Handle, store, and dispose of chemicals used in the automotive industry according to local, state, and federal safety and environmental regulations.

B. Unit II. Basic Electrical Theory, Circuits and Components
1. Explain and apply Ohms Law when diagnosing electrical circuits and components.
2. Locate, identify, and describe the purpose of electrical and electronic components.
3. Locate and use reference data to diagnose drivability problems.
4. Use a digital volt-ohm meter and scan-tools to diagnose electrical and electronic problems in circuits and components associated with engine drivability problems.

C. Unit III. Common Engine Control Components and Diagnostic Procedures
1. Retrieve and make use of diagnostic reference data that identifies the location and test procedures used in engine control sensors and actuators.
2. Identify commonly used engine sensors and actuators on vehicles.
3. Perform standard on-the-vehicle tests on sensors and actuators.
4. Use scan-tools, break-out boxes, logic probes, and lab scopes in diagnosing problems associated with computerized engine control systems.

D. Unit IV. OBDI, OBDII, and Multiplexing Systems
1. Describe the differences among and features of OBDI, OBDII, and multiplexing systems.
2. Explain the use of diagnostic strategies used in OBDII systems.
3. Explain the use of diagnostic strategies used in multiplexing systems.

E. Unit V. Common Diagnostic Procedures Used in Domestic and Foreign Vehicles
1. Utilize commonly used scan-tools to retrieve codes and other data stream diagnostic information on domestic and foreign vehicles.

2. Use a strategy-based diagnostic procedure to interpret scan-tool data information when servicing and repairing OBKI, OBDII, and multiplexing system components.
3. Perform standard on-the-vehicle testing of sensors and actuators using the scan-tool.
4. Describe reprogramming and flashing procedures used by car manufacturers.

III. THECB Learning Outcomes (WECM)

1. Employ proper safety procedures.
2. Use scan tools, digital storage oscilloscopes, and other electronic test equipment.
3. Apply electronic principles to the diagnosis of microcomputers, analysis of communication circuits, and interpretation of sensor data.

IV. Evaluation

A. Unit exams will count 60% toward the final grade.
Unit lab exams will count 40% toward the final grade.

B. Grading Scale
90 to 100 = A
80 to 89 = B
70 to 79 = C
60 to 69 = D
Below 60 = F

C. Cheating will not be permitted. Any person caught cheating will receive a grade of zero for that exam.

V. Disability Statement (Americans with Disabilities Act [ADA])

EPCC offers a variety of services to persons with documented sensory, mental, physical, or temporary disabling conditions to promote success in classes. If you have a disability and believe you may need services, you are encouraged to contact the Center for Students with Disabilities to discuss your needs with a counselor. All discussions and documentation are kept confidential. Offices located: VV Rm C-112 (831-2426); TM Rm 1400 (831-5808); RG Rm B-201 (831-4198); NWC Rm M-54 (831-8815); and MDP Rm A-125 (831-7024).

VI. 6 Drop Rule

Students who began attending Texas public institutions of higher education for the first time during the Fall 2007 semester or later are subject to a 6-Drop limit for all undergraduate classes. Developmental, ESL, Dual Credit and Early College High School classes are exempt from this rule. All students should consult with their instructor before dropping a class. Academic assistance is available. Students are encouraged to see Counseling Services if dropping because exemptions may apply. Refer to the EPCC catalog and website for additional information.