

AUTOMOTIVE TECHNOLOGY

AUTO 102. Electrical Measuring Instruments**2 Credits (1+2P)**

Selection, operation, and care of electrical measuring instruments.

AUTO 111. Automotive Mechanics Basics**4 Credits (4)**

Basic maintenance procedures of the major components of the automobile using service repair manuals, hand and power tools, precision measurement equipment, fasteners and chemicals. Restricted to:

Community Colleges only.

AUTO 112. Basic Gasoline Engines**5 Credits (2+6P)**

Principles of gasoline engine operation. Identification, design, function of engine components; engine disassembly and reassembly; trouble shooting, and rebuilding heads.

AUTO 113. Automotive Electricity and Electronics PT I**4 Credits (2+4P)**

Topics include mastery of DC electricity, use of digital multimeters, troubleshooting electrical problems in starting, charging and accessory systems. Restricted to Community Colleges only.

AUTO 114. Automotive Electricity and Electronics PT II**4 Credits (2+4P)**

Advanced AC and DC automotive electronic circuits. Troubleshooting electronically controlled components including supplemental restraint systems and convenience accessories. Restricted to Community Colleges campuses only.

Prerequisite: AUTO 113.

Learning Outcomes

1. Understand and demonstrate safety rules related to electronically controlled automotive systems.
2. Diagnosis and demonstrate knowledge of series, parallel, and combination circuits, and their applications as applied to automotive repair.
3. Demonstrate use of wiring diagrams as a diagnostic aide.
4. Demonstrate use of meters, handheld labsopes, scan tools, and other diagnostic equipment.
5. Demonstrate use of repair manuals, both hard copy and electronic.
6. Demonstrate knowledge, diagnose and repair Air Bag Supplemental Inflatable Restraint systems
7. Demonstrate knowledge, diagnose and repair various convenience electronic systems.
8. Interpret customer concerns, create and complete a diagnostic routine and successfully repair an electrical problem.
9. Diagnose and repair starting and charging systems.

AUTO 115. Automotive Engine Repair**4 Credits (2+4P)**

Principles of gasoline engine operation. Identification of engine parts, operation, and function. Disassembly and reassembly. Engine problem diagnoses (cooling system, lubrication system, engine noises). Restricted to Community Colleges only. May be repeated up to 5 credits.

Learning Outcomes

1. Understand internal combustion engine theory
2. Identify all components of an engine and their function
3. Identify worn engine components and determine necessary repairs
4. Effectively present engine issues and corrections using verbal and written communication
5. Diagnose cooling system issues and the effect on various components
6. Rebuild/ reassemble an engine to specifications