

SYLLABUS

DIVISION: Business & Engineering Technologies

REVISED 2012

CURRICULA IN WHICH COURSE IS TAUGHT: Automotive Analysis and Repair

COURSE NUMBER/TITLE: AUT 237-01 Automotive Accessories

CREDIT HOURS: 3 Web-based online course

I. CATALOG DESCRIPTION:

Introduces the principles, design, construction, adjustment, and maintenance of all automotive equipment classed as an accessory, which is not studied in other automotive courses.

II. RELATIONSHIP OF THE COURSE TO CURRICULA OBJECTIVES IN WHICH IT IS TAUGHT:

Students will:

- I. Demonstrate technical competencies and skills in automotive electrical systems.
- II. Demonstrate punctuality and reliability acceptable to the automotive repair industry.
- III. Use safety equipment and procedures required for the operations being performed.
- IV. Read and interpret technical information required for projects and assignments.
- V. Demonstrate and maintain a clean, orderly, safe and attractive work place and maintain a personal appearance that will enhance that work place.
- VI. Demonstrate technical competencies and skills in heating and air conditioning systems.
- VII. Demonstrate technical competencies and skills in automotive brake systems.

III. REQUIRED BACKGROUND:

The student must have taken the Automotive Electrical Systems, Automotive Brake Systems and the Automotive Climate Control classes before taking this class or by permission of the instructor.

IV. COURSE CONTENT:

Antilock braking systems
Traction control systems
Use of vehicle wiring diagrams
Troubleshooting electrical circuits
Windshield wiper systems
Inflatable restraint systems
Blower motor systems
Electric door locks
Speed control systems

Head light dimmers
Automatic temperature controls
Suspension control systems
Other chosen accessories
Lighting systems

Students will work to show competency in the performance of the following tasks:

ASE Task List

1. Inspect, test and service anti-lock brake system.
2. Diagnose poor stopping in an anti-lock brake system and the necessary repairs.
3. Observe anti-lock brake warning light: Determine repairs needed.
4. Diagnose ABS electronic controls systems.
5. Using the correct safety procedures depressurize integral components of the ABS system.
6. Fill the ABS master cylinder with the recommended fluid and check for leaks.
7. Bleed the ABS Hydraulic circuits.
8. Remove and install ABS electronic and hydraulic components.
9. Service, test and adjust ABS speed sensors.
10. Diagnose the cause of intermittent false gauge readings.
11. Test gauge circuit voltage regulators.
12. Inspect and test gauges and sending units.
13. Inspect and test circuit boards and wiring of gauge circuits.
14. Diagnose false reading warning light and driver information system.
15. Diagnose false reading electronic digital instruments.
16. Inspect and test sensors and wiring of electronic digital instrument systems.
17. Diagnose defective wiper operation.
18. Diagnose defective windshield washer operation.
19. Diagnose electric motor-driver accessories.
20. Diagnose heating glass operation.
21. Diagnose electric door and truck lock operation.
22. Diagnose cruise control system.
23. Diagnose supplemental restraint warning light system.
24. Disable supplemental restraint systems using manufacturer's procedures.
25. Locate and interpret vehicle and major component identify numbers.
26. Diagnose lighting system operation.
27. Inspect, replace and aim headlamps.
28. Diagnose turn signal and hazard light operation.
29. Use wiring diagrams to diagnose electrical circuit problems.
30. Check electrical circuits with a test light.
31. Find electrical circuit problems and repair.

V. LEARNER OUTCOMES:

Evaluated by multiple choice, fill-in-the-blank or true/false tests:

1. Identify the different methods used to provide automotive D-C electric motors.
2. Use of vehicle wiring diagrams to locate components and trace circuits.

3. Diagnose noise suppression problems in automotive radios.
4. Identify the operation of an automotive speed control system.
5. Identify correct repair procedures for an automatic temperature control system.
6. Identify the operation of an anti-lock brake system.
7. Identify the operation of an inflatable restraint system.

VI. Program Outcomes:

1. Students will demonstrate the ability to use an automotive scan tool and a multi-meter to retrieve information and diagnose a modern automobile.
2. Students will work in teams to complete the disassembly and reassembly of automotive assemblies in selected course areas.
3. Students will demonstrate the use of precision measurement tools such as an outside micrometer and a torque wrench.
4. Students will complete all assigned lab worksheets on modern automobile systems.
5. Students will successfully complete a Shop Safety Course.
6. 75% of students will be able to complete these assignments

VII. General Education Objectives to Be Addressed in the Course:

Communication

Learning Skills

Critical Thinking

Interpersonal Skills

Human Relations

Understanding Culture and Society