

SYLLABUS

Division: Business & Engineering Technologies

REVISED: Spring 2012

Curricula in Which Course is Taught: Automotive Analysis & Repair

Course Number and Title: AUT 212 Automotive Systems IV

Credit Hours: 4 Lecture Hours/Week: 3 Laboratory Hours/Week: 3

I. Course Description:

Presents advanced theory and detailed study of automobile systems. Provides laboratory periods for actual field practice in troubleshooting.

II. Relationship of the Course to Curriculum Objectives:

Students will:

1. demonstrate technical competencies and skills in ignition system diagnosis
2. demonstrate technical competencies and skills in automotive engine repair
3. demonstrate technical skills and competencies in engine performance diagnosis
4. demonstrate technical skills and competencies in automotive electrical diagnosis
5. demonstrate punctuality and reliability acceptable to the automotive repair industry
6. use safety equipment and procedures for the operations being performed
7. read and interpret technical information required for the operations being performed
8. demonstrate and maintain a clean, orderly, safe, and attractive work place and maintain a personal appearance that will enhance that work place.

III. Requirements:

Prerequisite: AUT 211

IV. Course Objective-ASE task list:

Diagnose ignition system related problems such as no-starting, hard starting, engine misfire, poor driveability, spark knock, power loss, poor milage, and emissions concerns on vehicles with electronic ignition(distributorless) systems as well as earlier distributor type ignition systems ; determine action.

Inspect and test ignition coil primary circuit wiring and solid state components; perform necessary action.

Inspect, test and service distributor

Inspect and test ignition system secondary circuit wiring and components; perform necessary action.

Inspect and test ignition coil(s); perform necessary action

Check and adjust ignition system timing and timing advance/retard

Inspect and test ignition system pick-up sensor or triggering devices; perform necessary action

V. **Learner Outcomes:**

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

1. diagnose engine ignition system performance
2. diagnose engine performance using the four gas analyzer
3. interpret auto repair manuals
4. distinguish engine mechanical failures versus electronic failures
5. distinguish engine fuel system failures versus ignition system failures

VI. **Evaluation:**

by active participation in team projects:

1. participate in the diagnosis of various ignition systems
2. participate in the use of the four gas analyzer for diagnosis
3. participate in the use of automotive repair manuals
4. participate in the use of engine diagnostic equipment
5. participate in distinguishing mechanical failures from electronic failures
6. 75% of students will be able to complete these assignments

VII. The following General Education Objectives will be addressed in this course:

- Communications
- Learning Skills
- Critical Thinking
- Interpersonal Skills and Human Relations
- Computational and Computer Skills
- Understanding Culture and Society
- Understanding Science and Technology
- Wellness