

SYLLABUS

DIVISION: Business & Engineering Technologies **REVISED:** Fall 2012
CURRICULA IN WHICH COURSE IS TAUGHT: Automotive Analysis & Repair
COURSE NUMBER AND TITLE: AUT 111 Automotive Analysis & Repair
Course Credits 4 **Lecture** 3 Hours/Week **Laboratory** 3 Hours/Week

I. Course Description:

Presents analysis of power, cylinder condition, valves and bearings in the automotive engine to establish the present condition, repairs or adjustments

II. Relationship of the Course to Curriculum Objectives:

Students will:

- I. demonstrate technical competencies & skills in automotive engine repair
- II. demonstrate punctuality & reliability acceptable to the auto repair industry
- III. use safety equipment & procedures required for the tasks being performed
- IV. read & interpret technical information required for projects & assignments
- V. demonstrate and maintain a clean, orderly, safe & attractive work place & maintain a personal appearance that will enhance that work place

III. **Requirements:** None

IV. Course Objectives-ASE task list:

Identify and interpret engine concern; determine action
Research applicable vehicle service information
Locate and interpret vehicle and service information
Inspect engine for fuel, oil & other leaks; recommend repairs
Diagnose engine noises and vibrations; recommend action
Diagnose excessive oil consumption; exhaust color, odor and sound
Perform engine vacuum test; compare to engine vacuum diagnosis sheet
Perform cylinder power balance test; determine action
Perform cylinder compression test; compare to engine compression diagnosis sheet
Perform cylinder leakage test; compare to cylinder leakage diagnosis sheet
Remove and reinstall late model FWD engine
Remove and reinstall late model RWD engine

V. Learner Outcomes:

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

1. identify industry engine part wear standards
2. identify the principles of the four-stroke cycle engine
3. diagnose the causes of engine power loss and failure
4. identify the correct engine repair procedures
5. identify the various alternative engine's operating principles

VI. EVALUATION: by active participation in team projects:

6. participate in the dismantling and cleaning of an engine
7. participate in the precision measurements necessary for engine repair
8. participate in the "hands-on" study of engine operation and repair
9. participate in the assembly of an engine rebuild project
10. participate in the removal of an engine from an automobile
12. participate in the installation of an engine in an automobile
13. 75% of the students will be able to complete these assignments

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

X Communications

X **Learning Skills**

 X **Critical Thinking**

 Interpersonal Skills and Human Relations

 X **Computational and Computer Skills**

 Understanding Culture and Society

 X **Understanding Science and Technology**

 Wellness