

## SYLLABUS

**Division: Business & Engineering Technologies**

**REVISED 2012**

**Curricula in Which Course is Taught: Automotive Analysis & Repair**

**Course Number and Title: AUT 215 Emission Systems Diagnosis & Repair**

**Course Credits 2 Lecture 2 Hours/Week**

**I. Course Description:**

**Presents logical diagnostic paths to identify vehicle HC-CO failure areas. Teaches a progression of failure detection from most likely to more complex causes. Emphasizes use of infrared analyzer and manufacturer's specified adjustments.**

**II. Relationship of the course to curriculum objectives:**

**Students will:**

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

**III. Requirements :**

**Textbook: Automotive Technology (Principles, Diagnosis, & Service), latest edition, written by Halderman/Mitchell, Prentice Hall publisher**

**IV. Course Objectives-ASE tasklist:**

**Diagnose oil leaks, emissions and driveability problems resulting from malfunctions in the positive crankcase ventilation ( PCV) system; determine necessary action.**

**Diagnose emissions and driveability problems caused by malfunctions in the exhaust gas recirculation(EGR) system; determine necessary action**

**Diagnose emissions and driveability problems resulting from malfunctions in the secondary air injection and catalytic converter system; determine necessary action.**

**Inspect and test catalytic converter performance**

**Diagnose emissions and driveability problems resulting from malfunctions in the intake air temperature control system; determine necessary action.**

**Diagnose emissions and driveability problems resulting from malfunctions in the early fuel evaporation control system; determine necessary action.**

**Diagnose emissions and driveability problems resulting from malfunctions in the evaporative emissions control system; determine necessary action.**

**V. Learner Outcomes:**

- 1. identify the major automotive pollutants**
- 2. identify the parts of and diagnose problems of emission control devices**
- 3. identify the probable cause of emission problems using the 4-gas analyzer**
- 4. diagnose emission system related driveability problems**
- 5. identify the different catalytic converter systems**
- 6. identify the federal and state laws affecting automotive emissions**

**VI. Evaluation:**

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