AUTO 241
Automotive Propulsion Systems II
5 Credits: 3 Lecture, 6 Lab hours

Community College of Baltimore County
Common Course Outline

Description

AUTO 241 – Automotive Propulsion Systems II: is a course in which students are introduced to the diagnosis and repair of engine performance-related component systems; laboratory experiences will include diagnosis, inspection, disassembly, overhaul, and repair of fuel emission, ignition, and engine-related systems as well as associated repairs.

Pre-requisites: AUTO 161

Overall Course Objectives

Upon completion of this course, students will be able to:

1. use wiring diagrams during diagnosis of electrical circuit problems;
2. measure available voltage and voltage drop in electrical/electronic circuits using a digital multimeter (DMM) to determine needed repairs;
3. measure current flow in electrical/electronic circuits and components using an ammeter to determine needed repairs;
4. find shorts, grounds, opens, and resistance problems in electrical/electronic circuits to determine needed repairs;
5. diagnose engine mechanical, electrical, electronic, fuel, and ignition problems with oscilloscope and engine diagnostic equipment to determine needed action;
6. inspect and test power and ground circuits and connections to determine service or replacement as needed; and
7. perform all other up-to-date ASE Education Foundation tasks from the master course list.

Major Topics

I. Operation of computer-controlled engine systems
II. Diagnosis of fuel injection systems
III. Diagnosis of ignition systems
IV. Diagnosis of emission systems

Course Requirements

Grading will be determined by the individual faculty member, but shall include the following, at minimum:

- three quizzes
- weekly lab projects
- research paper (6-8 pages typed) or obtain the ASE Professional Certification
- three homework assignments

- active engagement in class activities
- one midterm exam
- one comprehensive final exam with a written component and a hands-on individual assessment

Written assignments and research projects: Students are required to use appropriate academic resources in their research and cite sources according to the style selected by their professor.

Other Course Information

This class combines lab with lecture and students apply knowledge learned in a hands-on environment.

Date Revised: 12/5/2023