

**Course Outline**  
**AUTO 241**  
**Repairing Automotive Engines – Related Systems**  
**4 Credit Hours**  
**3 Lecture Hours**  
**3 Lab Hours**

**The Community College of Baltimore County**

**Description**

**Repairing Automotive Engines-Related Systems**

Discusses diagnosis and repair of engine performance-related component systems; laboratory experiences will include diagnosis, disassembly, overhaul, and repair of fuel emission, ignition, and engine-related systems as well as associated repairs. \$20.00 fee required.

Prerequisite: AUTO 161

**Overall Course Objectives**

Upon completion of this course the student will be able to:

1. Use wiring diagrams during diagnosis of electrical circuit problems.
2. Check voltage and voltage drop in electrical/electronic circuits using a digital multimeter (DMM) and determine needed repairs.
3. Check 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 and 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.
7. All other NATAF Tasks from the master course list.

**Major Topics**

1. Operation of computer controlled engine systems
2. Diagnosis of fuel injection systems
3. Diagnosis of ignition systems
4. Diagnosis of emission systems

In AUTO 241 students are required to demonstrate an ability to solve problems.

## **Course Requirements**

### **One Term Paper**

1. Topic of the paper will be selected by the student and should relate to the subject material of the course.
2. The paper should be 6 to 8 pages in length, typewritten, and double-spaced. It should include in addition to the 6 to 8 pages of text, an author and title page and bibliography utilizing a minimum of three reference resources excluding classroom materials.
3. All papers are due when 80% of the class sessions are completed. Papers submitted late will be deducted one letter grade.

### **Grading/Exams:**

Grading procedures will be determined by the individual faculty member and will be provided on the first day of class. A student can expect a minimum of eight grades from the following categories:

1. Quizzes
2. Lab projects
3. Written paper
4. Homework assignments
5. Midterm exam
6. Class participation
7. Comprehensive final (required)

## **Other Course Information**

This course is an Automotive Technology core course.