

Common Course Outline
AUTO 171
Repairing Automotive Suspension Systems
4 Credits
Community College of Baltimore County

Description

AUTO 171 – Repairing Automotive Suspension Systems introduces diagnosis and repair of automotive steering and suspension systems and their components including diagnosis, inspection, disassembly, and steering and suspension systems.

4 credits: 3 lecture hours; 9 laboratory hours

Prerequisite: AUTO 100 or written permission from program coordinator required

Corequisite: ACLT 052 or ACLT 053 or (ESOL 052 and ESOL 054) and MATH 081

Overall Course Objectives

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

1. diagnose power non-rack and pinion steering gear binding, uneven turning effort, looseness, and hard steering, fluid leakage problems to determine needed repairs;
2. diagnose power rack and pinion steering gear vibration, looseness, and hard steering problems to determine needed repairs;
3. flush, fill, and bleed power steering system;
4. remove, inspect, replace, and adjust strut (compression/tension) rods and bushings;
5. remove, inspect, and replace MacPherson strut cartridge or assembly, strut coil spring, insulators, and upper strut bearing mount;
6. measure and adjust front and rear wheel camber to determine needed repair;
7. measure and adjust caster to determine needed repairs;
8. measure and adjust front wheel toe and adjust as needed;
9. measure and adjust rear wheel toe;
10. inspect rear wheel thrust angle to determine needed repairs;
11. diagnose tire wear patterns to determine needed repairs; and
12. perform all other up to date NATEF (National Automotive Technicians Education Foundation) tasks from the master course list.

Major Topics

- I. Repair of suspension and steering system
- II. Adjustment of suspension and steering system
- III. Diagnosis of the suspension and steering system
- IV. Inspection and measurement of suspension and steering system

Course Requirements

Grading/Exams:

Grading procedures will be determined by the individual faculty member but will include the following:

- A minimum of 4 quizzes
- A minimum of 8 lab projects
- A minimum of 1 written paper
- A minimum of 4 homework assignments
- One mid-term exam
- Class participation
- Comprehensive final skills assessment (required)

Written 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.

Written Assignments: Students are required to utilize appropriate academic resources.

Other Course Information

AUTO 171 approaches repairing automotive suspension systems as a learning process that incorporates theory with laboratory experience. To complete the course successfully, practical ability as well as knowledge of theory must be demonstrated.

This is an Automotive Technology core course and is taught in an 8-week format.