

Common Course Outline

Auto 100

Introduction to Automotive Technology

5 Credits

Community College of Baltimore County

Description

AUTO 100 – Introduction to Automotive Technology introduces students to automotive technology, service and light repair. Topics covered include utilization of online information systems, hazardous material handling, tools and equipment, vehicle safety, vehicle hoisting, multipoint vehicle inspection, and vehicle maintenance and light repair. This course is taught during a 3-week session.

5 Credits

Prerequisites and/or Co-requisites: None

Overall Course Objectives

Upon completion of this course students will be able to:

1. explain the required code of conduct and describe the philosophy behind each college rule/regulation;
2. identify all components of a safety data sheet and explain proper handling & disposal of various hazardous chemicals;
3. write repair orders and inspection forms which include labor time, parts cost and parts mark up;
4. locate general service information, service bulletins and/or campaigns using an online information system,
5. interpret the meaning of diagnostic trouble codes using an online information system;
6. identify system best practices and explain their importance using online information system;
7. look up general service information service bulletins and/or campaigns using online information system;
8. identify hybrid system circuits;
9. employ following proper procedures when working around hybrid circuits;
10. identify (locate) the high voltage disconnect for hybrid systems;
11. demonstrate lifting a vehicle on an industry standard vehicle lift using proper lift points and apply necessary safety procedures;
12. distinguish various hand tools and describe their purpose;
13. identify various types of torque wrenches and demonstrate fastener torque procedures;
14. measure and record various automotive related objects using precision measuring tools and record their findings;
15. translate vehicle emissions, powertrain and options;

16. evaluate and determine the appropriate repair for the following systems: windshield wiper & washer system, the exterior lighting system, the horn for proper operation, the parking brake system, and the clutch system;
17. inspect the following components and recommend the appropriate repair: engine air filter, battery testing using industry standard battery charger/analyzer (GR8) or equivalent, driveline components, steering components, exhaust system, drive/serpentine belt/s; inspect fluid levels and recommend the appropriate services;
18. perform a drain, fill and purge the cooling the system;
19. change the fluid in manual and automatic transmissions following proper procedures;
20. service differentials and transfer cases using the proper procedures;
21. perform an oil and filter change following manufacturer's procedures;
22. identify various tire markings and explain their meanings;
23. measure tire tread depth;
24. assess tire condition and inflate tires using proper procedures;
25. rotate tires and torque lug nuts using manufacturer's recommended torque and sequence,
26. identify disc and drum braking systems,
27. carry out a proper measurement of brake pad and/or brake shoe lining thickness;
28. inspect braking system for internal and external fluid leakage and recommend appropriate repairs;
29. perform manufacturer recommended basic services
30. apply all other up-to-date National Automotive Technicians Education Foundation (NATEF) tasks from the master course list.

Major Topics

- I. Utilization of online information systems
- II. Hazardous material handling
- III. Tools and equipment
- IV. Vehicle safety
- V. Vehicle lifting
- VI. Vehicle inspection
- VII. Vehicle maintenance and light repair

Course Requirements

Grading/exams: Grading procedures will be determined by the individual faculty member but will include a minimum of eight grades from the following categories:

- Quizzes
- Lab projects
- Written paper
- Homework assignments
- Midterm exam
- Class participation
- Comprehensive final (required)

Written Assignments: Students are required to use appropriate academic resources. Writing assignment should conform to Acceptable Usage Policy.

Other Course Information

AUTO 100 approaches introduction to automotive technology 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 course is an Automotive Technology prerequisite course--5 credits: 60 lecture hours; 30 laboratory hours per week, 3-week session.

Date Revised: 1/14/2016