

**Common Course Outline**  
**AUTO 151**  
**Repairing Automotive Automatic Transmissions**  
**5 Credits**  
**Community College of Baltimore County**

**Description**

**AUTO 151 – Repairing Automotive Automatic Transmissions** introduces diagnosis and repair of automatic transmissions and transaxles; includes disassembly, inspection, component repair, adjustments, reassembly, and external adjustments.  
**5 credits:** 3 lecture hours; 14 laboratory hours

**Prerequisite:** AUTO 131

**Overall Course Objectives**

Upon completion of this course students will be able to:

1. interpret and verify driver's complaint, verify proper engine operation, and determine needed repairs;
2. perform pressure test, perform stall test, and determine needed repairs;
3. inspect, adjust, or replace manual shift valve and throttle (TV) linkages or cables, and check gear select indicator (as applicable);
4. service transmission, perform visual inspection, and replace fluids and filters;
5. inspect, measure, clean, and replace valve body (includes surfaces and bores, springs, valves, sleeves, retainers, brackets, check-balls, screens, spacers, and gaskets) and check/adjust valve body bolt torque;
6. inspect internal transmission parts and determine needed repairs;
7. disassemble, clean, and inspect transmission/transaxle;
8. assemble transmission/transaxle;
9. measure endplays or preload and determine needed service;
10. inspect, measure, and replace thrust washers and bearings;
11. inspect and measure planetary gear assembly (includes sun, ring gear, thrust washers, planetary gears, and carrier assembly) and replace as needed;
12. inspect transaxle drive, link chains, sprockets, gears, bearings and bushings, and replace as needed;
13. inspect clutch drum, piston, check-balls, springs, retainers, seals, friction and pressure plates, and replace as needed;
14. measure clutch packs clearance and adjust as needed;
15. air test operation of clutch and servo assemblies; and
16. perform all other up-to-date NATEF (National Automotive Technicians Education Foundation) tasks from the master course list.

2

**Major Topics**

- I. Torque converter operation
- II. Hydraulic clutch operation
- III. Control valve body

## **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 151 approaches repairing automotive automatic transmissions 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.