

University of Arkansas - Fort Smith
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General Syllabus

ASTE 15304 Automatic Transmissions

Credit Hours: 4

Lecture Hours: 2

Laboratory Hours: 4

Prerequisite or corequisite: ASTE 12304 Theory and Maintenance

Effective: 2018-2019

I. Course Information

A. Catalog Description

The theory, operating and servicing of various types of automatic transmissions are covered. Students disassemble, repair, rebuild, reassemble, test and adjust automatic transmissions.

B. Additional Information

Operational principles, servicing and overhauling of automatic transmissions are covered in this course. Major emphasis is placed on cleanliness, use of testing instruments and measuring instruments, special testing and adjustment tools, nomenclature, job analysis, temperature factors involved and transmission oils. Many types of transmissions are discussed. Design characteristics, mock-ups and cutaways are used for illustration purposes, along with charts, filmstrips, transmission manuals and videos. Shop safety is stressed throughout the course.

II. Student Learning Outcomes

A. Subject Matter

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

1. Perform general transmission diagnosis.
2. Perform general transmission maintenance and adjustment.
3. Perform in-vehicle transmission repair.
4. Perform off-vehicle transmission repair.
5. Perform shop organization and safety functions.
6. Take a customer's complaints

B. University Learning Outcomes

This course enhances student abilities in the following areas:

Communication Skills (written and oral)

Students must deal effectively with customers' complaints and ask effective questions to elicit more information.

Analytical Skills

Critical Thinking Skills: Students must analyze data gathered from customer complaints, inspections, tests, etc. in order to diagnose automatic transmissions problems.

III. Major Course Topics

- A. Nomenclature of Transmissions
- B. Principles of Fluids, Types and Precautions in Removing and Installations
- C. Use of Special Tools, Cleaning Solutions and Torque Converter
- D. Principles of Planetary Gears, Methods of Reduction
- E. Drain Converters, Make Minor Repairs of In-vehicle Transmissions
- F. Disassemble, Check Tolerances and Build-up Transmission
- G. Install, Adjust Linkage and Check-out Transmission
- H. Diagnose Transmission Troubles.