

## Master Syllabus

### AUT 2241 - Automatic Transmission Systems

**Division:** Science, Mathematics and Engineering

**Department:** Automotive Technology

**Credit Hour Total:** 4.0

**Lecture Hrs:** 1.6 **Lab Hrs:** 7.2

**Date Revised:** March 2014

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#### Course Description:

Theory and operation of automotive transmissions and transaxle systems. Lab experience in the overhaul and service of automatic transmissions and transaxles including mechanical, hydraulic and electronic systems diagnostics and testing.

#### General Education Outcomes:

- ❑ Critical Thinking/Problem Solving Competency
- ❑ Computer Literacy Competency
- ❑ Information Literacy Competency
- ❑ Oral Communication Competency

#### Course Outcomes:

##### Transmission/Transaxle Systems

Using current acceptable practices, diagnose and test transmission/transaxle, torque converter, and fluid/cooling systems.

**Assessment Method:** Locally developed exams

**Performance Criteria:** Score 60% correct responses on midterm and final exams.

**Assessment Method:** Performance appraisals

**Performance Criteria:** 100% correct score on labsheet.

**Assessment Method:** Simulations

**Performance Criteria:** 100% on transmission simulation

##### Transmission and Transaxle Computer Controls

Diagnose and test the inputs, processes, and outputs of a computer-controlled transmission/transaxle.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 60% correct responses on midterm and final examinations.

**Assessment Method:** Performance appraisals

**Performance Criteria:** 100% competency score on labsheets.

##### Transmission/Transaxle In-car Service

Using currently accepted methods, perform a variety of transaxle services; including the removal and replacement of a transmission, fluid level check, and fluid service.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 60% correct responses on midterm and final examinations.

**Assessment Method:** Performance appraisals

**Performance Criteria:** 100% competency score on labsheets

##### Transmission and Transaxle Fundamentals

Identify transmission and transaxle units by part number and SAE terminology, understand the parts of a transmission and transaxle, and describe the operation of transmission and transaxle mechanical, hydraulic and electronic systems.

**Assessment Method:** Locally developed exams

**Performance Criteria:** Minimum 60% correct responses on exams, 100% correct responses on chapter quizzes

**Assessment Method:** Simulations

**Performance Criteria:** 100% on Transmission fundamentals simulation.

##### Transmission and Transaxle Overhaul

Using industry approved service procedures and specialized equipment, demonstrate competency in the complete overhaul of an automatic transmission and an automatic transaxle.

**Assessment Method:** Locally developed exams

**Performance Criteria:** 60% correct responses on midterm and final exams

**Assessment Method:** Performance appraisals

**Performance Criteria:** 100% competency score on labsheets

#### Outline:

Transmission and transaxle fundamentals. Transmission and transaxle overhaul. Transmission and transaxle diagnosis and testing. Torque converter operation, diagnosis, and testing. Transmission and transaxle fluid and cooling systems. Transmission and transaxle computer controlled systems. Transmission and transaxle in-car service.