

# BUTTE COLLEGE

## COURSE OUTLINE

### I. CATALOG DESCRIPTION

**AUT 52 - Automatic Transmissions/Transaxles Lecture**

**3 Unit(s)**

**Prerequisite(s):** AUT 41 (or concurrent enrollment)

**Co-requisite(s):** AUT 53

**Recommended Prep:** AUT 1

**Transfer Status:** CSU

50 hours Lecture

This course provides theory and principles of operation in automatic transmissions/transaxles, to include diagnostic, testing and repair of each system.

### II. OBJECTIVES

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

- A. Correctly identify transmission types and perform routine service procedures including fluid exchange and external adjustments.
- B. Remove and replace both front and rear wheel drive automatic transmissions/transaxles.
- C. Identify internal automatic transmission components using industry terminology and demonstrate an understanding of powerflow through the various planetary components.
- D. Perform tests on automatic transmissions and transaxles using pressure gauges and scan tools to identify external or internal transmission/transaxle problems.
- E. Tear down and reassemble transmissions using industry specific publications and determine a "good" part from a "bad" part prior to reassembly.

### III. COURSE CONTENT

#### **A. Unit Titles/Suggested Time Schedule**

Lecture	
<u>Topics</u>	<u>Hours</u>
1. Identification	2.00
2. Removal and installation	3.00
3. Gearing	5.00
4. Apply devices	5.00
5. Torque converters	6.00
6. Shifting systems	6.00
7. Diagnostic and testing procedures	8.00
8. Repair procedures	8.00
9. Basic overhaul procedures	7.00
Total Hours	50.00

### IV. METHODS OF INSTRUCTION

- A. Lecture
- B. Instructor Demonstrations
- C. Collaborative Group Work
- D. Class Activities
- E. Field Trips
- F. Homework: Students are required to complete two hours of outside-of-class homework for each

- hour of lecture
- G. Discussion
- H. Problem-Solving Sessions
- I. Multimedia Presentations

## **V. METHODS OF EVALUATION**

- A. Exams/Tests
- B. Quizzes
- C. Homework
- D. Final Examination
- E. Written Examinations

## **VI. EXAMPLES OF ASSIGNMENTS**

- A. Reading Assignments
  - 1. In the "Classroom Manual", read the chapter concerning planetary gear sets and answer the end of chapter questions.
  - 2. Using the assigned vehicle and Mitchell or All Data as a reference, locate the procedure for checking the transmission fluid level.
- B. Writing Assignments
  - 1. In the "Key Notes" work book supplied by the instructor, answer the questions and fill in the blanks for the planetary gear sets section.
  - 2. After completing the required transmission flush lab assignment, write a story on the back of the repair order and demonstrate an understanding of 3 C's, Concern, Cause, and Correction.
- C. Out-of-Class Assignments
  - 1. Using Honda's Interactive Network, complete the cognitive modules for both automatic and CVT transmissions.
  - 2. Complete and score an 80% or better in the areas Mechanical Safety and Pollution Prevention and Control on the SP2 website. This must be completed prior to working in the lab.

## **VII. RECOMMENDED MATERIALS OF INSTRUCTION**

Textbooks:

- A. Jack Erjavec. Today's Technician: Automatic Transmissions and Transaxles Set. 6th Edition. Cengage Learning, 2015.

**Created/Revised by:** Robert Holt

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