SOUTHEAST COMMUNITY COLLEGE
TRANSPORTATION OCCUPATIONS
AUTOMOTIVE TECHNOLOGY
COURSE SYLLABUS
January 24, 2023

I. CATALOG DESCRIPTION

Course Number: AUTT2112
Course Title: Automatic Transmission/Transaxle
Prerequisite: AUTT1111, AUTT1116

Catalog Description: Theory of operation, basic design, components, disassembly, diagnosis and re-assembly of automatic transmissions/transaxles.

Credit Hours: 5.5
Classroom Hours: 30
Lab Hours: 158
Total Contact Hours: 188

II. COURSE OBJECTIVES: *Course will:*

- **A.** Cover removal and disassembly of the automatic transmission/transaxle.
- **B.** Cover inspection and repair of the automatic transmission/transaxle.
- **C.** Cover reassembly of the automatic transmission/transaxle.
- **D.** Cover dyno-testing of the automatic transmission/transaxle.
- **E.** Cover torque converters.
- **F.** Cover automatic transmission/transaxle pumps.
- **G.** Cover automatic transmission/transaxle clutches.
- **H.** Cover accumulators.
- **I.** Cover automatic transmission/transaxle bands.
- **J.** Cover automatic transmission/transaxle servos.
- **K.** Cover pressure testing automatic transmission/transaxle.
- **L.** Cover automatic transmission/transaxle electronic/hydraulic controls.
- **M.** Cover automatic transmission/transaxle solenoids and relearn procedures.
- **N.** Cover automatic transmission/transaxle transmission fluids.
- **O.** Cover automatic transmission/transaxle planetary gear sets.
- **P.** Cover automatic transmission/transaxle thrust bearings and washers.
- **Q.** Cover one way mechanical clutches.
- **R.** Cover automatic transmission/transaxle valves and valve bodies.
- **S.** Cover diagnosing transmission faults.
- **T.** Cover tow haul modes and power take off systems.

III. STUDENT LEARNING OUTCOMES AND GENERAL EDUCATION LEARNING OUTCOMES:

A. STUDENT LEARNING OUTCOMES: *Student will be able to:*

1. Explain the theory, design, and operation of automatic transmission/transaxles.
2. Properly remove and disassemble an automatic transmission/transaxle.
3. Clean, inspection and repair of the automatic transmission/transaxle.
4. Correctly reassemble an automatic transmission/transaxle.

5. Dynamometer test automatic transmission/transaxle.
6. Explain the theory, operation and repair of hydraulic systems.
7. Explain the theory and operation of planetary power flow.
8. Explain the theory and operation of torque converters.
9. Explain the theory and operation and repair of fluid pumps.
10. Explain the theory and operation and repair of clutches/bands.
11. Properly pressure test a transmission/transaxle.
12. Explain the theory and operation and repair electronic controls.
13. Properly check and service automatic transmission fluids.
14. Perform inspection, removal and installation of transmission bearings/bushings.
15. Perform inspection, removal and installation of one way mechanical clutches.
16. Explain the theory, operation and repair of valves and valve bodies.
17. Diagnose transmission faults.
18. Explain the function and operation of tow haul modes and power take off systems.

B. GENERAL EDUCATION LEARNING OUTCOMES:

GELO #3: Critical Thinking & Problem Solving

1. Collect, identify, interpret and analyze data.

IV. CONTENT/TOPICAL OUTLINE

A. Automatic transmission/transaxle theory and operation
B. Automatic transmission/transaxle removal
C. Diagnosis of automatic transmission/transaxle
D. Automatic transmission/transaxle disassembly, diagnosis and repair.
E. Reinstalling, adjusting and testing automatic transmissions/transaxles.
F. Servicing the automatic transmission/transaxle.

V. INSTRUCTIONAL MATERIALS

The Course Information Document lists the current text(s) required for this class. The list is also available in the campus bookstore. The Course Information Document also lists the tools/equipment or other supplies required for this class.

VI. METHODS OF PRESENTATION

A. Methods of presentation typically include a combination of the following:

1. Lecture
2. Small and large group discussion
3. Video presentation
4. Demonstrations
5. Project boards
6. Handouts
7. Observations
8. Assigned lab projects
9. Online information
10. Field trips

VII. METHODS OF EVALUATION

A. Methods of evaluation typically include a combination of the following:

1. Notebook (if required)
2. Quizzes
3. Tests
4. Lab grades
5. Attendance/Class conduct

Letter grades will be based on the SCC Standard Grade Scale Policy. **Note:** See Course Information Document for specific details on how the course grades will be calculated.

VIII. SPECIFIC COURSE REQUIREMENTS

A. Student must:

1. Complete all tests, projects, assignments, and notebook (if required).

B. Attendance:

1. Students must follow the Attendance Policy as stated in the college student handbook, automotive lab and classroom policies handbook or Course Information Document.

C. Shop safety rules will be followed.

D. Any additional course requirements as stipulated by the Instructor.