AUTO 1200

Division: Career and Technical Education
Department: Automotive Technology
Course: AUTO 1200
Title: Automotive Automatic Transmissions and Transaxles
Catalog Description:

This course covers theory, operation, diagnosis, and overhaul procedures of automotive automatic transmissions and transaxles, including planetary gearing, valve bodies, computerized transmission controls, and torque converter lock-up.

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 5; Lecture: 2; Lab: 9
Clock/Hour Requirements: 165
Offered for Non-Credit: No
Prerequisites: None

Corequisites: None

Justification:

This course is required for Automotive Service Excellence (A.S.E.) certification. It is approved by the program advisory committee.

Student Learning Outcomes:

Upon successful completion of this course, students will be able to safely perform the tasks listed in the current edition of *A.S.E. Certification For Automobile Training Programs*.

Content:

Course objectives will be accomplished by providing students with learning experiences in the following subject areas:

- safety
- torque converters
- torque converter clutch control
- planetary gear operation
- planetary gear systems in transmissions/transaxles

- hydraulic fundamentals
- pumps and valves
- hydraulic operation in transmissions/transaxles
- fluid and seals
- electronic shift control circuits
- diagnosis of torque converter and torque converter clutch
- diagnosis of electronic shift control circuits
- transmission/transaxle removal and installation
- transmission/transaxle disassembly
- transmission/transaxle overhaul practices
- sub-assembly reconditioning
- transmission/transaxle assembly practices
- Chrysler automatic transmission/transaxle summaries
- Ford automatic transmission/transaxle summaries
- General Motors automatic transmission/transaxle summaries.

General Education Outcomes:

4) Retrieve, evaluate, interpret, and deliver information through a variety of traditional and electronic media.

Students will utilize electronic and written reference manuals and computer diagnostics to identify, troubleshoot, and repair transmissions and other related components.

6) Apply computational skills to a variety of contexts.

Students are required to perform mathematic computations with regard to gear ratios, force pressures, and a variety of other vehicle systems. Familiarity with the binary numbering system and computer generated matrices is emphasized.

7) Apply scientific reasoning to a variety of contexts.

Students will participate in transmission and other diagnostic procedures.

Key Performance Indicators:

In class:

- Students shall be required to complete chapter assignments (60%) and pass a final test (40%), In addition, students are required to perform shop tasks (P1 tasks 100%, P2 tasks 90%, and P3 tasks 80% to pass course) as outlined in the current edition of *A.S.E. Certification For Automobile Training Programs.*

Following class:

- Course evaluation will be demonstrated by the following methods:

- student feedback as per ASE requirements
- students passing A.S.E. tests
- students transferring to other post secondary institutions
- student performance in subsequent courses.

Representative Text and/or Supplies:

- Erjavec, Jack, Ronald, *Automatic Transmissions and Transaxles*, current edition, Thomson/Delmar Learning.

Optimum Class Size: 10
Maximum Class Size: 18

Signatures:

I hereby submit this course syllabus:

Brent Reese, BS, Associate Professor

I hereby find this course consistent with the goals and resources of the Automotive Technology Department:

Brent Reese, BS, Associate Professor, Chair

I hereby find this course consistent with the goals and resources of the Career and Technical Education Division:

Michael P. Medley, MBA, Assistant Professor, Dean

I have discussed the need for library resources related to this class with the person submitting the syllabus:

Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

Michelle Olsen, MLS, Campus Librarian (Richfield Campus)