AUTO 1300

Division: Career and Technical Education
Department: Automotive Technology
Course: AUTO 1300
Title: Automotive Manual Transmissions/Transaxles and Power Trains
Catalog Description:

This course covers theory, operation, diagnosis, maintenance, and overhaul of the clutch, standard transmission, standard transaxles, drive lines, differentials, front wheel drive units, and four wheel drive components.

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:

Upon completion of this course, students will be able to understand and explain:

- safety
- drive train theory
- clutch design and operation
- manual transmission/transaxle design, operation, and maintenance
- front drive axle design, construction, types, maintenance, and repair
- drive shafts and universal joints construction, types, maintenance, and repair
- differential and drive shaft operation, types, and repair

- four-wheel drive system design and types
- drive train electrical and electronic system design and operation.

General Education Outcomes:

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 A.S.E. 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, *Manual 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)