



## AUTO 2200

**Division:** Career and Technical Education

**Department:** Automotive Technology

**Course:** AUTO 2200

**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:**

**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:

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Brent Reese, BS, Associate Professor

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

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Brent Reese, BS, Associate Professor, Chair

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

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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:

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

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Michelle Olsen, MLS, Campus Librarian (Richfield Campus)