



AUTO 1400

Division: Career and Technical Education

Department: Automotive Technology

Course: AUTO 1400

Title: Automotive Suspension and Steering

Catalog Description:

This course covers repair and adjustment suspension and steering systems. Students study steering gears, rack and pinion, conventional and McPherson struts, alignment angles, and alignment with a computerized four wheel alignment fixture.

General Education Requirements: N/A

Semesters Offered: TBA

Credit/Time Requirement: Credit: 5; Lecture: 2; Lab: 10

Clock/Hour Requirements: 180

Offered for Non-Credit: No

Prerequisites: None

Corequisites: None

Justification:

This course is required for Automotive Service Excellence (A.S.E.) certification. It is also 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
- history and evolution of automotive suspension systems
- wheel bearings
- tire and wheel design and repair
- 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:

- Knowles, Don, *Automotive Suspension and Steering Systems*, 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)