AUTO 1401 (formerly AUTO 1400)

Division: Career and Technical Education
Department: Transportation Technology
Course: AUTO 1401 (formerly 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 McPhearson struts, alignment angles, and alignment with a computerized four wheel alignment fixture. **Co-requisite: This lecture AUTO 1401 must be taken concurrently with the lab AUTO 1405.**

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 5; Lecture: 2; Lab: 0
Clock/Hour Requirements: 30
Offered for Non-Credit: Yes
Prerequisites: N/A

Corequisites: AUTO 1405

Justification:

This course is required for Automotive Service Excellence (A.S.E.) certification. It is also approved by the advisory committee for an AAS degree in Automotive Technology.

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
- four wheel drive front end and types

- syspension electrical and electronic system design and operation
- four-wheel alignment
- spring types
- shock absorber and strut design types
- suspension angles; i.e. camber, caster, and toe.

General Education Outcomes:

Applied Education Outcomes:

1) Students will acquire entry-level skills specific to and appropriate for employment in their chosen field of study.

Students will diagnose, repair, test, and study modern automotive suspension systems similar to those found in t he industry.

3) Students will demonstrate safe practices and awareness of potential hazards in their field of expertise.

Students will study, test on, and practice a safe work environment in the lab area.

Key Performance Indicators:

Student Learning Outcomes will be assessed by two or more of the following Key Performance Indicators:

- chapter assignments
- final test
- shop cleanup
- feedback as per A.S.E. requirements
- passing A.S.E. tests
- transferring to other post-secondary institutions
- performance in subsequent courses.

Representative Text and/or Supplies:

- Knowles, Don, *Automotive Suspension and Steering Systems*, current edition, Thomson/Delmar Learning.

Optimum Class Size: 15
Maximum Class Size: 25

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 Transportation 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)