



AUTO 1000

Division: Career and Technical Education

Department: Automotive Technology

Course: AUTO 1000

Title: Automotive Safety and Basics

Catalog Description:

This course provides proper knowledge of practices in safety to help establish working habits that would reflect industry standards and result in a safe working environment.

General Education Requirements: N/A

Semesters Offered: TBA

Credit/Time Requirement: Credit: 1; Lecture: 1; Lab: 1

Clock/Hour Requirements: 30

Offered for Non-Credit: No

Prerequisites: None

Corequisites: None

Justification:

This course covering safety and automotive basics for Automotive Service Excellence/National Automotive Technicians Education Foundation (ASE/NATEF) certification is required for all automotive technology programs. This course is approved by the program advisory committee.

Student Learning Outcomes:

Upon successful completion of this course, students will be able to:

- understand the importance of safety and accident prevention in an automotive shop
- explain the basic principles of personal safety, including protective eye wear, clothing, gloves, shoes, and hearing protection
- explain the procedures and precautions for safely using tools and equipment
- explain what should be done to maintain a safe work area, including handling vehicles in the shop and venting carbon monoxide gases
- describe the purpose of the laws concerning hazardous wastes and materials, including the right-to-know laws
- list the basic units of measurements for length, volume, and mass in the two measuring systems
- list the various mechanical measuring tools used in the automotive shop
- describe the proper procedure for measuring with a micrometer
- list some of the common hand tools used in auto repair

- describe the use of common pneumatic, electrical, and hydraulic power tools found in an automotive service department
- explain the basic principles of electricity
- name the diagnostic tools and equipment commonly used in vehicle repair work
- describe the basic applications and operation of diagnostic tools
- explain why it is important for technicians to be skilled in the use of electrical, electronic, and computerized test equipment
- explain the difference between unitized and body-over-frame vehicles
- list the basic systems that make up an automobile and name their major components and functions
- explain the importance of preventive maintenance and list at least six examples of typical preventive maintenance
- describe the requirements for Automotive Service Excellence (ASE) certification as an automobile technician.

Content:

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

- personal safety, including understanding rules and regulations, dress, protective clothing, and personal protective equipment
- safe methods of using hand and power tools
- safely moving vehicles in shop areas and precautions with running vehicles
- understanding hazardous materials and right-to-know laws
- working with both metric and United States (US) standard measuring systems
- properly using precision tools
- identifying hand, pneumatic, electric, and hydraulic tools and their functions
- basic electrical principles and use of electronic test meters and equipment
- automobile construction and basic systems/components used
- ASE certification and how it impacts individuals and the industry.

General Education Outcomes:

Key Performance Indicators:

In class:

- Students shall be required to complete chapter tests (50%) and complete all assigned tasks (50%).

Following class:

- Course evaluation will be demonstrated by the following methods:
 - student feedback as per ASE requirements
 - students transferring to other post secondary institutions
 - student performance in subsequent courses.

- Instructional materials as directed by instructor

Optimum Class Size: 10

Maximum Class Size: 18

Signatures:

I hereby submit this course syllabus:

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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)