AUTO 1002

Division: Career and Technical Education
Department: Automotive Technology
Course: AUTO 1002
Title: Automotive Technology II
Catalog Description:

This course covers the principles of fuel system, emission controls, windshield wipers and washers, interior care, dash gauges, radios, stereos, CB radio and radar detectors, clutches and manual transmissions, automatic transmissions, driveshafts and axles, suspension and steering, wheels and tires, brakes, trailer towing, body care and repair, anti-theft systems, buying and owning a car, how to deal with motor vehicle emergencies, and ways to save fuel.

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 6; Lecture: 4; Lab: 6
Clock/Hour Requirements: 150
Offered for Non-Credit: No
Prerequisites: AUTO 1000

Corequisites: None

Justification:

This course is approved by the advisory program committee and prepares students for Automotive Service Excellence (ASE) certification.

Student Learning Outcomes:

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

- know emission systems past and present
- repair and test fuel and emission control systems
- replace and repair windshield wipers and washers
- demonstrate interior care
- identify dash gauges
- demonstrate maintenance and service of radios, stereos, tape players, CB radios and radar detectors
- demonstrate clutch and transmission repair
- service automatic transmissions
- repair and replace U joints and drive axles
- demonstrate suspension and steering maintenance and alignment
- describe wheels and tires and demonstrate tire repair
- demonstrate brake repair and bearing adjustment
- demonstrate body care

- describe anti-theft systems
- describe how to deal with motor vehicle emergencies
- describe ways to save fuel.

Content:

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

- testing fuel pumps, replacing fuel filters, testing fuel pressure
- wiper and washer repair
- interior cleaning and mirror replacement
- gauge testing and types
- cleaning tape players and describing speaker arrangements
- adjusting clutch and service transmissions
- servicing automatic transmissions
- servicing drive shafts and drive axles
- servicing suspension and steering
- wheels, tire wear, and tire repair
- brake shoes, brake pads, drums, and rotors
- trailer towing and precautions
- cleaning, washing, and waxing automobiles
- anti-theft systems
- cost of owning and buying a car
- dealing with motor vehicle emergencies
- ways to save fuel.

General Education Outcomes:

4) Retrieve, evaluate, interpret, and deliver information through a variety of traditional and electronic media.
Students will utilize electronic and written reference manuals and computer diagnostics to identify, troubleshoot, and repair engines, transmissions, brakes, and other vehicle components.

6) Apply computational skills to a variety of contexts.
Students are required to perform mathematic computations with regard to electrical systems, gear ratios, force pressures, and a variety of other vehicle systems. Familiarity with the binary numbering system and computer generated matrices is emphasized.

Key Performance Indicators:

In class:

- Students are tested orally on an ongoing basis. Classroom assignments are given for each chapter. Written tests are given on major subject areas. Students are also graded on practical application of theoretical skills as they are performed in automotive repairs. Selected points are given towards a possible total of 100% for each completed assignment, along with practical application (90%) and tests (10%) for total grade.

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.

Representative Text and/or Supplies:

- Tim Gilles, *Automotive Service,* current edition, Thomson/Delmar Learning.
- Instructional materials as directed by instructor

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)