AUTO 2600

Division: Career and Technical Education
Department: Automotive Technology
Course: AUTO 2600
Title: Automotive Engine Repair
Catalog Description:
This course covers construction and operational principles of basic gasoline engine systems and major overhaul of the complete automotive engine.
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
- theory of engine operation
- engine diagnosis
- engine measuring and reconditioning tools and equipment
- engine removal and disassembly
- cylinder head and valve train disassembly and inspection
- reconditioning the cylinder head
- inspection and reconditioning the cylinder block
- engines past, present, and future
- inspection and reconditioning crank shaft and cam shafts
- engine reassembly and installation
- inspection and repair of engine lubricating and cooling systems.

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, and other vehicle components.

5) Apply a cultural and historical awareness to a variety of phenomena.
Students will develop an understanding of the history of automobile development and its relationship to past, current, and future developments in the automotive field.

6) Apply computational skills to a variety of contexts.
Students are required to perform mathematic computations with regard to engine components. Familiarity with the binary numbering system and computer generated matrices is emphasized.

7) Apply scientific reasoning to a variety of contexts.
Students will participate in electrical, transmission, engine performance, and other diagnostic procedures.

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:

- Hollembeak, Barry, *Automotive Engine Repair and Rebuilding*, 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)