AUTO 1103

Division: Career and Technical Education
Department: Automotive Technology
Course: AUTO 1103
Title: Automotive Batteries, Starting and Charging Systems
Catalog Description:
Students will understand the theory, operation, and diagnosis of automotive batteries. Students will understand and be able to diagnose and repair automotive starting systems and charging systems.
General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 3; Lecture: 3; Lab: 3
Clock/Hour Requirements: 75
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 understand and be able to explain:

- safety
- battery construction
- chemical action
- maintenance-free batteries
- hybrid batteries
- recombination batteries
- battery ratings
- direct current motors and the starting systems
- starter drives
- cranking motor circuits
- charging systems
- AC generator circuits

- AC generator regulation.

General Education Outcomes:

Key Performance Indicators:

In class:

- Students shall be required to complete chapter tests (50% of the grade), and pass a final test (50% of the grade). 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 per A.S.E. requirements
  - students transferring to other post secondary institutions
  - student performance in subsequent courses.

Representative Text and/or Supplies:

- Hollembeak, Barry, *Automotive Electricity and Electronics,* current edition, Thomson/Delmar Learning.

Optimum Class Size: 10
Maximum Class Size: 18

Signatures:

I hereby submit this course syllabus:

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Brent Reese, BS, Associate Professor

I hereby find this course consistent with the goals and resources of the Automotive Technology Department:

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Brent Reese, BS, Associate Professor, Chair

I hereby find this course consistent with the goals and resources of the Career and Technical Education Division:

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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:

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Lynn Anderson, MLIS, Technical Services Librarian (Main Campus)

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Michelle Olsen, MLS, Campus Librarian (Richfield Campus)