DMT 2805

Division: Career and Technical Education
Department: Transportation Technology
Course: DMT 2805
Title: Emissions and Emissions Control Devices Lab
Catalog Description:

This course gives students the hands-on lab experience for DMT 2801. This course teaches diesel systems that control/regulate the engine's output emissions, emission controls, maintenance procedures, repair, diagnosis, and safety. Students will be taught the emission standards and regulations of the federal government and administered by organizations such as the Environmental Protection Agency (EPA) and Mine Safety and Health Administration (MSHA). **Co-requisite: The lab DMT 2805 must be taken concurrently with the lecture DMT 2801.**

General Education Requirements: N/A
Semesters Offered: TBA
Credit/Time Requirement: Credit: 2; Lecture: 0; Lab: 6
Clock/Hour Requirements: 90
Offered for Non-Credit: Yes
Prerequisites: N/A

Corequisites: DMT 2801

Justification:

This course is required for Automotive Service Excellence (A.S.E.) certification. It is approved by the 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 Diesel Training Programs*.

Content:

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

- electronic engine control systems
- data aquision system, including intake and exhaust systems

- diesel EGR systems
- diesel catalytic converters
- Diesel Particulate Traps
- Urea injection systems
- NOx, HC, O2, CO2, etc
- Federal emissions standards
- CAFE
- EPA
- 5 gas analyzers.

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 diesel emissions systems similar to those found in the 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:

- Thiessen, Dales, *Diesel Fundamentals,* current edition, Prentice Hall.

Optimum Class Size: 15
Maximum Class Size: 25

Signatures:

I hereby submit this course syllabus:

Robert Boyer, BS, Instructor

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)