



DMT 1130

Division: Career and Technical Education

Department: Automotive Technology

Course: DMT 1130

Title: Basic Diesel Engine Overhaul and Lab

Catalog Description:

This course will instruct heavy duty mechanics technology students on the basic operation, parts, and overhaul procedures of diesel engines. The course provides theory and lab experiences on diesel engines. Students will receive detailed instruction on engine lubrication, air, cooling, and exhaust systems.

General Education Requirements: N/A

Semesters Offered: TBA

Credit/Time Requirement: Credit: 4; Lecture: 2; Lab: 5

Clock/Hour Requirements: 113

Offered for Non-Credit: No

Prerequisites: DMT 1110

Corequisites: None

Justification:

Students must complete this foundation course to function effectively in the heavy duty mechanics technology field. Employers require this training before technicians would even be considered for employment. This curriculum was developed using the nationally recognized Automotive Service Excellence (ASE) task lists, manufacturer training materials, advisory committee input, Utah Valley State College syllabi, and Salt Lake Community College documentation.

Student Learning Outcomes:

Upon successful completion, students should be able to:

- identify basic engine parts
- discuss the operation of internal combustion engines
- distinguish between diesel and gas engine
- explain operation of a four-stroke engine and a two-stroke engine
- explain engine performance factors
- understand engine rebuilding requirements
- understand engine components and know how to troubleshoot, test, and repair each of them.

Content:

DMT 1130

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

- cylinder block, lines, crankshafts, main bearings, vibration dampeners, and flywheel
- pistons, rings, and connecting rod assemblies
- combustion chambers, cylinder heads, and assemblies
- cooling systems, lubricating systems, lubricants, air intake, and exhaust systems
- theory and lab finals.

General Education Outcomes:

2) Write clearly, informatively, and persuasively.

Students will complete written service reports on each laboratory project. These reports must be written in a clear, concise, and effective manner as this is the means by which customers make repair decisions. These reports are reviewed and returned to students with suggestion for improvement.

Key Performance Indicators:

In class:

- Student scores will be based on: written assignments (20%-30%), lab exercises (40%-50%), and quizzes and tests (20%-30%).

Following class:

- Upon completion of the course, competency will be demonstrated in subsequent courses and on customer projects. Students will also use on the job reports and repair orders to verify skills acquired.

Representative Text and/or Supplies:

- Norman, Schariff, Croinchock, *Heavy Duty Truck Systems*, current edition, Delmar Publishers.

Optimum Class Size: 10

Maximum Class Size: 20

Signatures:

I hereby submit this course syllabus:

Dale Jensen, ,

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)