

**J. Sargeant Reynolds Community College
Course Content Summary**

Course Prefix and Number: MEC 175

Credits: 4

Course Title: Fundamental Shop Procedures and the Internal Combustion Engine

Course Description: Introduces the student to the practical use and care of hand and power tools, shop equipment and pullers, precision measuring tools, service manuals and parts catalogs, and safety. Includes the introduction to the design of the internal combustion engine. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

General Course Purpose: This course serves as an approved elective in lieu of DSL 197, Cooperative Education in Diesel Mechanics Technology, for students in the Diesel Mechanics Technology Certificate program. Students enrolled in this course must provide and wear proper clothing and safety glasses while in the lab area.

Course Prerequisites and Co-requisites:

None

Student Learning Outcomes:

Upon completing the course, the student will be able to

- a. Properly identify and use power and hand tools;
- b. Perform precision measurements using the proper tools;
- c. Understand and demonstrate proper shop safety; and
- d. Understand the design of a basic internal combustion engine.

Major Topics to Be Included:

- a. Hand tools
- b. Power tools
- c. Precision measuring tools
- d. Shop equipment
- e. Shop safety
- f. Internal combustion engine

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