

Internal Combustion Engines

Outline of Instruction

Course Information

Organization	Monroe County Community College, Applied Science and Engineering Technology
Development Date	10/27/2006
Course Number	AUTO 101
Potential Hours of Instruction	6
Total Credits	4

Description

This course covers the operating principles and design considerations of internal combustion engines typically encountered in the transportation field. Included will be two and four stroke - cycle gasoline and diesel engines, Wankel and gas turbine engines. Emphasis will be on four stroke-cycle gasoline engines.

Major units:

Operating principles of internal combustion engines
Measurements of engine performance
Cylinder head components, operation and service
Camshafts and related components
Operation and service of lower engine components
Operation of cooling system
Operation of lubrication system
Engine performance diagnosis

Textbooks

Duffy. *Modern Automotive Technology*.

Learner Supplies

Calculator.

Prerequisites

None

Exit Learning Outcomes

General Education Outcomes

- A. Apply mathematical approaches to the interpretation of numerical information
- B. Use computer technology to communicate information
- C. Apply mathematical approaches to the analysis of numerical information
- D. Communicate ideas in writing using the rules of standard American English

Course Outcomes

1. **Analyze principles of internal combustion engines**
2. **Analyze engine torque, power and efficiency**
3. **Analyze blocks and related componets**
4. **Service vales and vale seats**
5. **Compute and piston timing, displacement, velocity and acceleration**
6. **Measure airflow through a cylinder head**
7. **Determine time is seconds for various engine functions**
8. **Prepare reports in an engineering format**
9. **Practice shop safety**