

AUT 201 : AUTOMOTIVE ENGINES

Transcript title

Automotive Engines

Credits

4

Grading mode

Standard letter grades

Total contact hours

80

Lecture hours

20

Lab hours

60

Prerequisites

AUT 101, AUT 106, AUT 107, AUT 110 and AUT 115.

Recommended preparation

or to be taken with

Course Description

Provides information on the construction, operation and design of the internal combustion engine. Teaches the concepts and procedures of engine work to cover the proper procedure in rebuilding a four-cycle internal combustion engine. Includes a combination of guided lecture and laboratory applications, stressing safety, accuracy of measure, proper usage of tools, and application of repair manuals through actual overhaul of engines.

Course learning outcomes

1. Perform General Engine Diagnosis, disassembly, measurement, and reassembly.
2. Perform Cylinder Head and Valve Train Diagnosis and Repair.
3. Perform Engine Block Diagnosis and Repair.
4. Perform Lubrication and Cooling Systems Diagnosis and Repair.
5. Communicate technical information verbally and in writing.

Content outline

1. Measuring systems and tools
2. Gasoline engine operation
3. Coolant
4. Cooling system operation and diagnosis
5. Engine oil
6. Lubrication system operation and diagnosis
7. Cylinder head and valve guide service
8. Valve and seat service
9. Camshafts and valve train
10. Engine condition diagnosis

11. Engine removal and disassembly
12. Engine cleaning and crack detection
13. Pistons, rings, and connecting rods
14. Engine blocks
15. Crankshafts, balance shafts, and bearings
16. Gaskets and sealants

Required materials

Requires textbook and special gear, see syllabus for details.