

AUT 205 : ENGINE PERFORMANCE I

Transcript title

Engine Performance I

Credits

2

Grade mode

Standard letter grades

Contact hours total

40

Lecture hours

10

Lab hours

30

Prerequisites with concurrency

AUT 103.

Description

Studies the diagnosis of drivability problems. Covers engine analysis, cooling and exhaust systems, ignition and fuel management systems.

Learning outcomes

1. Describe and apply tests and procedures to assess the:
 - a. Mechanical health of the Engine.
 - b. Proper functioning of the fuel supply and injection systems.
 - c. Proper functioning of the engine management systems.
 - d. Proper functioning of the cooling system.
 - e. Proper functioning of electrical circuits, components and ignition system.
 - f. Proper functioning of the vehicle's intake, exhaust and evaporative systems.
2. Perform Exhaust Emission test with a Five-Gas Analyzer to determine engine operation and efficiency.
3. Communicate technical information verbally and in writing.
4. Describe and practice safety procedures while working in an automotive shop environment.

Content outline

1. Combustion Chamber Health, Efficiency, Vacuum, Timing, Intake Exhaust, and Cooling System
2. Engine Condition Diagnosis
3. Scan Tools and Engine Performance Diagnosis
4. Cooling System Operation and Diagnosis
5. Gasoline, Delivery and Metering, Supply Pressure/Regulation, Trim/O2 Sensors, Injectors
6. Fuel Pumps, Lines, and Filters
7. Computer and Network Fundamentals
8. Gasoline and Alternative Fuels
9. Distributor, Waste Spark, Coil-Over-Plug, Oscilloscope Waveforms
10. Ignition System Diagnosis and Service

11. Emission Control Devices Operation and Diagnosis
12. Onboard Diagnosis

Required materials

Requires textbook and special gear, see syllabus for details.

Grading methods

Grades are based on a blend of factors: homework, pre-test, lab participation, mid-term and final exam.