

AUT 205 : ENGINE PERFORMANCE I

Transcript title

Engine Performance I

Credits

2

Grading mode

Standard letter grades

Total contact hours

40

Lecture hours

10

Lab hours

30

Prerequisites with concurrency

AUT 103.

Course Description

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

Course learning outcomes

1. Describe and apply tests and procedures to assess the mechanical health of the engine and the proper functioning of: the fuel supply and injection systems; engine management systems; cooling system; electrical circuits, components, and ignition system; 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 and 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 and 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.