

Print Date: 7/14/14
Course Objectives/Course Outline
Spokane Community College

Course Title: Theory of Engines

Prefix and Course Number: Auto 211

Course Learning Outcomes:

By the end of this course, a student should be able to:

- Identify and describe the purpose, types of applications, and operation methods pertaining to automobile engine theory.
- Use strategy-based diagnostics to diagnose specific engine components as detailed in the course outline.

Course Outline:

I. Engine Operation

- A. Cleaning the Engine
- B. Engine Shop Equipment and Safety
- C. Measuring: US and Metric

II. Preliminary Diagnosis Before Repair

- A. Theory of Engine Removal, Disassembly, Inspection, and In-Car Repairs
- B. Cylinder Head Theory
- C. Cam and Manifold Theory
- D. Cylinder Block – Inspection and Service Theory
- E. Crankshaft and Bearings, Piston and Rod Theory
- F. Lubrication and Cooling Systems Theory
- G. Engine Hardware: Fasteners, Thread Repair and Gaskets
- H. Valve Train and Valve Timing

III. Reassembly and Starting

- A. Strategy-based Diagnostics
- B. Evaluating Driver Input
- C. Visual Inspections
- D. Test Drives