

Date Prepared: 08/08/01

COURSE OUTLINE

_____New X Revised

Effective Date: 08/21/01

COURSE PREFIX NUMBER: AUT 111

CREDIT HOURS: 4

COURSE TITLE: Automotive Engines I

COURSE PREREQUISITES:

COURSE DESCRIPTION:

Presents analysis of power, cylinder condition, valves and bearings in the automotive engine to establish the present condition, repairs or adjustments. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

CONTENTS: (Major Headings)

- a. Shop Safety
- b. Personal Safety
- c. Tool and Equipment Safety
- d. Measuring Systems (standard and metric)
- e. Introduction to Engines
- f. Noise Diagnosis
- g. Engine Disassembly
- h. Short Blocks
- i. Cylinder Block and Cylinder Block Reconditioning
- j. Installing Main Bearings and Crankshaft
- k. Piston and Piston Rings
- l. Cylinder Heads and Valves
- m. Aluminum Cylinder Heads
- n. Camshaft and Valve Trains
- o. Installing the Timing Components
- p. Lubricating and Cooling Systems
- q. Intake and Exhaust
- r. Engine Sealing and Reassembly
- s. Adhesives, Sealants, and Other Chemical Sealing Materials

GENERAL COURSE OBJECTIVES:

Upon successful completion of the course the student will be able to:

- a. identify and understand the use and care of hand & power tools
- b. demonstrate a knowledge of safety in all areas of a mechanical shop

- c. demonstrate the ability to use precision measuring tools
- d. demonstrate a basic understanding of principles of operation of piston type internal combustion engines
- e. identify and list various types of engines and their relationships to operation
- f. perform general overhaul and repair components
- g. perform general overhaul and repair procedures on selected internal combustion piston type engines
- h. list and perform proper maintenance and preventative maintenance procedures on piston type internal combustion engines