

PALOMAR COLLEGE
COURSE OUTLINE OF RECORD FOR
DEGREE CREDIT COURSE

 X Transfer Course X A.A. Degree Applicable Course
(check all that apply)

COURSE NUMBER AND TITLE: AT 125 Automotive Machining

UNIT VALUE: 3 **MINIMUM NUMBER OF SEMESTER HOURS:** 96

BASIC SKILLS REQUIREMENTS: Appropriate language and computational skills.

ENTRANCE REQUIREMENTS:

PREREQUISITE: None.

COREQUISITE: None.

RECOMMENDED PREPARATION: None.

SCOPE OF COURSE:

The various testing and machining operations involved in an automotive machine shop. Areas covered include cylinder head service and repair, pin fitting, cylinder boring, milling, align boring and various other automotive machining and measuring techniques.

SPECIFIC COURSE OBJECTIVES:

Student will measure, evaluate and perform the following machining operations: magnaflux, clean, repair cracks, install seat insert, install false guide, grind seats, install heli-coil, test springs, surface and assemble cylinder head, resize rods, fit pins, knurl pistons, bore and hone cylinders and install cylinder sleeve.

CONTENT IN TERMS OF SPECIFIC BODY OF KNOWLEDGE:

- I. Safety Rules

- II. The Valve Train
 - A. Servicing the valves
 - B. Servicing the valve guide

- C. Servicing the valve seat
 - D. Servicing the lifters
 - E. Rocker arm service
 - F. Cylinder head service
 - G. Servicing the valve springs
- III. Pistons
- A. Types
 - B. Service
- IV. Connecting Rods
- A. Design
 - B. Service
- V. Cylinders
- A. Evaluation
 - B. Service
- VI. Locating and Repairing Cracks
- A. Locating cracks
 - B. Repairing cracks
 - C. Repairing damaged threads
- VII. Crankshaft
- A. Construction
 - B. Service

REQUIRED READING:

Gilles, Tim. Automotive Engines. 3rd ed. New York: Delmar Publishers, 1996.

SUGGESTED READING: None.

REQUIRED WRITING: None

OUTSIDE ASSIGNMENTS:

Students are expected to spend a minimum of three hours per unit per week in class and on outside assignments, prorated for short term classes.

Solves problems as assigned in each class session. Assigned readings from the text and other assigned sources.

INSTRUCTIONAL METHODOLOGY:

Check all that apply:

- lecture
- laboratory
- lecture-laboratory combination
- directed study

This course may be offered as a distance education course and meets Title 5 regulations 55370, 55372, 55374, 55376, 55378, and 55380.

Yes No

If yes, check all that apply. (See guidelines for preparation for definitions.)

- telecourse
- mediated instruction
- computer assisted instruction

GRADING POLICY AND STANDARDS (include methods for determining whether the stated objectives have been met by students):

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|------------------------|-----|
| EXAMS | 30% |
| LAB PROJECTS COMPLETED | 70% |

IS COURSE REPEATABLE FOR REASON(S) OTHER THAN DEFICIENT GRADE?

Yes No Number of times course may be taken for credit: 1.

If yes, identify specific provision of Title 5 Division 2 section(s) 55761-55763 and 58161 which qualifies course as repeatable:

CONTACT PERSON: Steve Bertram Ext. 2556

SIGNATURES:

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| SIGNATURES ON FILE |
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