

Master Course Syllabus MAC 1012: Advanced Engine Lathe

Purpose of Document

This document contains important information about this course's objectives. It may be helpful for you to retain a copy for your records, along with the class specific syllabus. This document will be especially helpful if you decide to later change your course of study.

Pikes Peak State College and the Colorado Department of Higher Education have determined that graduates should have a broad range of learning skills as well as discipline related skills. Both types of skills are detailed below.

Course Description

Prepares students to form radius, single-point isometric threads, turn spherical radius, use a radius gauge, and work within .0005 inches tolerance externally.

Credit Hours: 3

Contact Hours: 67.5 (Lecture/Lab Combination)

Required Course Learning Outcomes

- I. Identify the common thread forms
 - A. Square
 - B. Acme
 - C. American National
 - D. Knuckle
 - E. Buttress
 - F. Unified
- II. Differentiate between single lead and multiple lead threads.
- III. Explain the nomenclature of the American national and unified screw threads.
- IV. Demonstrate grinding cutting tool and using the center gage to check accuracy.
- V. Demonstrate setting the compound slide at the proper angle for threading.
- VI. Demonstrate Setting the quick-change gear box for the desired thread pitch.
- VII. Recognize the function of the half nut and lead screw.
- VIII. Demonstrate engaging the threading lever.
- IX. Differentiate between class 1,2,3, and 4 fits.
- X. Demonstrate machining external and internal class 3 UNC and UNF threads.
- XI. Demonstrate turning to external diameter accuracy of .0005 inch.
- XII. Demonstrate facing work piece to length accuracy of .001 inch.

Required Topical Outline

- I. Thread types: Internal and external threads of various forms
- II. Thread cutting preparation of the cutting tool and lathe for threading