PIKES PEAK STATE COLLEGE
Machining Technology

Master Course Syllabus
MAC 1002: Print Reading for Machinists

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
Instructs students in reading and understanding industrial prints. This course covers basic drafting and print standards, fundamentals of shape description, fundamentals of size description and annotation, industrial drawing types, and specialized parts and prints. Symbol interpretation, tolerancing and dimensioning standards are also covered.
Credit Hours: 3
Contact Hours: 67.5 (Lecture/Lab Combination)

Required Course Learning Outcomes
1. Identify the importance of prints.
2. Identify the standard alphabet of lines and describe the types of lines by appearance and purpose.
3. Identify the elements of the title block and parts list.
4. Identify scales and precision measuring devices and tools.
5. Explain Multiviews used in engineering/manufacturing drawings to include section views and auxiliary views.
6. Demonstrate an understanding of geometric terms and construction.
7. Review the basic elements involved in common manufacturing processes.
8. Identify fasteners such as common screw thread forms, springs, connections methods, cams, splines, and gears.
9. Identify terms, symbols and measurements associated with dimensioning, geometric dimensioning and tolerancing, local and general notes, symbols, and surface texture.
10. Identify and define components of industry drawing types to include assembly drawings, detail drawings, working drawings, and pictorial drawings.
11. Discuss and identify industry symbols used on sheet metal drawings, to include weldments and electrical symbols.

Required Topical Outline

I. Introduction to prints
II. Line conventions and lettering
    A. Alphabet of lines
    B. Line conventions
    C. Lettering
III. Title blocks and part lists
    A. Title block
    B. Parts lists
    C. Materials lists
    D. Drawing revision systems
IV. Precision measuring devices
    A. Scale riles
    B. Calipers
    C. Micrometers
V. Drawing views
    A. Multiviews
    B. Section views
        1. Full sections
        2. Half sections
        3. Offset sections
        4. Removed sections
        5. Revolved sections
        6. Aligned sections
        7. Broken-out sections
    C. Auxiliary views
VI. Geometric terms and construction
VII. Manufacturing processes
VIII. Fasteners
    A. Screw thread representation
    B. Springs
    C. Cams
    D. Gears
    E. Splines
    F. Serrations
    G. Other connection methods
IX. Dimensioning and tolerancing
    A. ANSI Y14.5M standards, ASME Y14.5 standards
    B. Dimensioning
    C. Tolerancing
    D. Dimension and tolerance symbols
    E. Local notes
    F. General notes and abbreviations
    G. Machining specifications
    H. Surface texture symbols
X. Drawing types
    A. Assembly
    B. Detail drawings
    C. Working drawings
    D. Pictorial drawings
XI. Other industry symbols

A. Sheet metal symbols
B. Weldments
C. Electrical symbols