

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: DRAFTING
Code No.: DRF 101
Program: MECHANICAL TECHNOLOGY
Semester: 1
Date: JUNE 1987
Author: COLIN RISING

New: _____ Revision: X

APPROVED: *L.P. Crozuth*
Chairperson

87-08-18
Date

DRAFTING
Course Name

DRF 101
Course Number

PHILOSOPHY/GOALS:

To have the student fully aware of the reason for the methodology of producing drawings for use on the shop floor.

Further to the above, the student will have a full appreciation of the fact that a drawing is a communication, and as such, must be complete, easy to read and correct with respect to all information given on the drawing.

METHOD OF ASSESSMENT (GRADING METHOD):

A
B
C
I

Grading will be done on quality of layout, drawings, sketches, general tidiness of presentation, and time factor.

TEXTBOOK(S):

Engineering Drawing and Design -- Jensen
Mechanical Engineering Standards C.S.A. B78.1
Mechanical Engineering Standards C.S.A. B78.2

DRAFTING

DRF 101-6

TEXTS:

Engineering Drawing and Design, Jensen

Mechanical Engineering Drawing Standards - C.S.A. B78.1
C.S.A. B78.2

REFERENCES:

"Engineering Drawing & Design": - Jensen - McGraw-Hill

"Machinery's Handbook"

"Mechanical Drawing SI Metric" - McGraw-Hill

REFERENCES:

"Design Engineering" - MacLean Hunter Publications

"Graphic Science" - Graphic Science

"Materials in Design Engineering" - Reinhold Publishing Corp.

NUMBERPERIODSTOPIC DESCRIPTION

1

4

Introduction

Graphic Language Past and Present
Drawing Office Procedures
Student Evaluation Methods
Use and Care of Office Equipment

2

108

Basic Engineering Drawing

Use of instruments
Alphabet of Lines
Lettering
Use of Scales - Metric and Architects
Freehand sketching
Geometric Construction
Third Angle Projection
Auxiliary views
Sections: Half, Full, Partial, Removed, Revolved
Dimensioning Introduction
Isometric Drawing
Limits, Fits & Tolerance Terminology
Standard Abbreviations S.S.A. B78.1
Plotted Curves
Simple Assembly Drawings

MECHANICAL TECHNOLOGY

MTY - 1

PERFORMANCE OBJECTIVES FOR

DRAFTING 1

DRF 100-6

The general objective of the course is to develop an understanding of Engineering Drawing as a technique of communication. The student will be able to make correct graphical representations of engineering structures, designs and data relationships showing an understanding of the fundamental principles and the grammar of the language, and will be able to execute the work with reasonable skill which is penmanship.

1. Produce good lettering, correct types of lines, pleasing layouts, accuracy and demonstrate correct selection and use of pencils and drawing instruments.
2. Complete practical geometrical problems involving straight lines, circles, helical curves and elliptical constructions.
3. Employ isometric and oblique representation for components having normal, oblique and cylindrical surfaces.
4. Apply third angle projection technique for the addition of missing lines and views involving normal, inclined and oblique surfaces. Completion of views involving plotted curves produced by inclined plane and cylindrical intersections.
5. Add missing lines to full, half, offset, aligned, phantom, revolved and detailed sections identifying materials by symbols.
6. Execute quick, accurate and clear sketches in multiview, auxiliary and pictorial of components requiring inclined, oblique and cylindrical surface analysis.
7. Produce drawings which completely describes the object and which involves the use of regular and primary auxiliary views.
8. Produce scale working drawings with size and description and demonstrating correct technique, placement and choice of dimensions.
9. Demonstrate ability to use in the correct context, the terms used in systems of limits, fits, and tolerances.
10. Produce simple assembly drawings and relative detail drawings including dimensions, general and local notes, bill of materials and numbering system.