

North Central Michigan College

NCMC MASTER COURSE SYLLABUS

Last Date Revised : October, 2006

DIVISION/AREA: Business and Technology

DEPARTMENT:

ASSOCIATE DEAN: Robert J. Marsh, Ph.D.

ORIGINATOR:

DEAN OF INSTRUCTION: Timothy Dykstra, Ph.D.

TOTAL HOURS OF INSTRUCTION: LECTURE: 3 LAB: 0 TOTAL CONTACT HOURS: 52.80

COURSE NUMBER: ENGR 107

CREDIT HOURS: 3

COURSE TITLE:

TRANSFERABLE YES: NO: X TO:

PREREQUISITE(S)/COREQUISITE(S)/ADVISORY: None

CATALOG DESCRIPTION:

An introductory course in the technical language of drafting, this course is designed for persons planning to enter an occupation where technical drawings are a primary means of communication. Topics covered include: sketching, pictorial and orthographic projection, drawing techniques, types of views and drawings, title block, materials, change system, callouts, gears, serrations, dimensioning, geometric dimensioning and tolerancing, and an introduction to CAD.

GENERAL EDUCATION OUTCOMES:

- Think critically and analytically
 - Independently acquire knowledge
 - Select and use mathematical tools for problem solving and decision making
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COURSE OBJECTIVES & OUTCOMES:

- Gain understanding of perspective drawings
- Gain understanding of basic drafting and sketching terminology
- Gain understanding of orthographic projection techniques
- Gain understanding of standard residential and mechanical blueprints
- Gain understanding of blueprint terminology

COURSE TITLE AND NUMBER: ENGR 107 Master.doc

- Produce simple blueprints
 - Interpret blueprints
 - Gain understanding of bill of materials
 - Be able to produce 1D and 2D drawings with AutoCAD
 - Understand the advantages and limitations of 2D CAD
 - Be able to effectively print AutoCAD output
 - Gain an understanding of the terminology of GD&T
 - Be able to apply GD&T to a wide variety of applications
 - Gain an understanding of the linkages between GD&T and blueprint reading
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METHODS OF INSTRUCTION: Lecture, in class sketching exercises

METHODS OF EVALUATION: In class exercises, homework assignments, quizzes and exams

REQUIRED TEXTS:

Print Reading for Industry, 2002 Edition, by Walter C. Brown
Geometric Dimensioning & Tolerancing, Participant's Guide by Technicomp, 6th printing

OPTIONAL SUPPLEMENTARY MATERIALS:

Reasonable accommodations can be provided to students with documented disabilities. Please contact Learning Support Services at 348-6817 to arrange these.

TIME ALLOWANCE AND SEQUENCE OF INSTRUCTION:

Week	Chapter/Units	Topic
1	1, 2, 5, 6, 7, 8	Orthographic projection Steel measurements
2	12	Orthographic projection sketches Dimensioning Quiz
3	18	Class presentations- pictorial sketches Projected figures
4	18	Cubes, cylinders pictorial Test review Test
5	4-1 through 4-5, 10	Projected figures and scales
6	11, 13, 14, 16, 17	Projected figures Line dimensioning Quiz
7	20, 21, 22	Projected figures Sample dimensioning, drawing Buildings
8	24, 27, 28	Projected figures Mechanical applications Exam
9		Introduction to AutoCAD Line drawings
10		Line drawings (CAD) Simple two dimensional drawings
11		Room layouts, mechanical details Isometrics, measurements
12		Intro to 3-D in AutoCAD Perspectives Solid shapes Exam
13	1, 2	Introduction Projected figures
14	3	Line drawings Two dimensional layouts Projected figures
15	4	Projected figures Dimensioning details Adjusting tolerances
16	Review- all	Advanced tolerancing Interference fits Projected figures Exam

APPROVED FOR ADOPTION BY THE CRD/AP COMMITTEE ON _____