Grande Prairie Regional College
Department of Science and Technology

EG 2100 - Engineering Graphics
Fall 1998

Course Outline

Instructor	Jaime P. Santiago J209, 539-2865		
Lecture	MW	1:00 - 1:50 p.m.,	Room J227
Seminar	F	1:00 - 1:50 p.m.,	Room J227
Mechanical Drawing Lab	R F	3:00 - 4:50 p.m., 3:00 - 4:50 p.m.,	J203 J203
AutoCAD Lab	W R	2:00 - 2:50 p.m. 2:00 - 2:50 p.m.	J101 J101

Topics Covered

Scales, orthographic projection, sectional and auxiliary views, isometric and oblique drawings, descriptive geometry, dimensioning and tolerancing, developments and intersections, threads, detail drawings; 2D and 3D AutoCAD commands, solid modeling.

Textbook

Fundamentals of Engineering Drawing, 11th Ed.
by Warren J. Luzzader and Jon M. Duff
Prentice-Hall

Applying AutoCAD, A Step-by-step Approach
Release 14
by Terry T. Wohlers
Glencoe-McGraw Hill

Laboratory Manual

Problems in Engineering Drawing for Design and Production
by Warren J. Luzzader, Jon M. Duff and Larry D. Goss
Prentice-Hall

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Grading			
	Mechanical Drawing	Lab Exercises	15%
		Midterm Exam	10%
		Final Exam	25%
	AutoCAD	Quizzes	7.5%
		Assignments	7.5%
		Midterm Exam	10%
		Final Exam	15%
		Project	10%

Mechanical Drawing Lab Exercises

There will normally be one mechanical drawing lab each week (except during midterm exams). The exercises will be taken from the lab workbook (Luzzader, Duff and Goss). The exercise for each week will be assigned on Mondays at the start of the lecture period.

Mechanical Drawing Midterm Exam

Mechanical drawing midterm exam will be on Thursday, Oct. 15, 1998. Arrangements will be made with other course instructors so the whole class can do the exam at the same time.

Mechanical Drawing Final Exam

This exam is 3 hours long. The date and time will be set by the Registrar's Office.

AutoCAD Seminars and Quizzes

A short quiz will be given during the seminar each Friday. Quizzes will be based on the AutoCAD material covered during the week. Problems encountered relating to AutoCAD assignments will also be discussed during the seminar. Items of special importance or items not covered by the AutoCAD text will also be discussed during the seminar.

AutoCAD Assignments

There will be about 10 AutoCAD assignments. These will be mainly taken from the AutoCAD text. Some problems from the main textbook may also be assigned.

The assignment for a particular week will be given during the Friday seminar class. They are due the following Friday.

The one hour period allotted for AutoCAD lab is insufficient to finish the required work. Students have to work on the assignments on their own time. The computer lab is generally available in the evenings and on weekends.

AutoCAD Project

Each student will submit a project proposal before midterm exam week. The project should be one of the following:

(1) Mechanical device - multiviews, sectional views and assembly drawing of a complex mechanical device. Blocks should be used where appropriate.

(2) Electrical schematic - schematic diagram of a complex electronic/electrical circuit. A block library of standard electronic/electrical components should be created as part of the project.

(3) Architectural drawing - floor plans of a residential building. Block libraries should be

created as part of the project and used in the final drawings.

(4) Civil engineering - a subdivision plan including block libraries of standard symbols

All drawings should conform to standard practice and must have dimensioning, the proper title blocks and bill of materials. The use of layers is required.

All projects have to be approved by the instructor before the student commences work. Any project not approved will not be marked. The project report is due on the last day of class. It must include printed/plotted drawings, computer files of drawings, libraries, etc. on floppy disks and a brief write-up explaning the project. Late submission of projects will be penalized by a 20% mark deduction per day. Projects late 5 or more days will receive a grade of zero.

Essential Equipment

0.5 mm and 0.3 mm mechanical drafting pencils
2H lead (0.3 mm)
F or HB and 2H lead (0.5 mm) (or F, 2H and 4H drawing pencils and pencil sharpener)
eraser (e.g. MARS plastic)
engineers decimal inch scale
metric scale
45° triangle
30° - 60° triangle
protractor
compass
masking tape
3.5" HD (1.44 MB) floppy diskettes

Recommended Optional Equipment

erasing shield
divider
Ames lettering guide
dusting brush

Textbook Reading: Fundamentals of Engineering Drawing

Week	Subject	Chapter	Sections
1	Course introduction, drawing instruments, alphabet of lines, linewidths and lineweights, parallel, perpendicular and inclined lines	1 2	All sections 2.1 - 2.13
2	Engineers, metric and architects scales Vertical and inclined lettering	2	2.24 - 2.25 2.34 - 2.42
3	Multiview sketching	4 5 6	4.1 - 4.6 5.1 - 5.7, 5.9 - 5.14 6.5 - 6.16
4	Orthographic projection	5	5.15 - 5.40
5	Engineering geometry	3	3.1 - 3.40
6	Sectional views	7	All sections
7	Auxiliary views	8	All sections
8	Descriptive geometry	9	9.1 - 9.30
9	Descriptive geometry Isometric and oblique projection	9 11	9.1 - 9.30 11.1 - 11.22
10	Isometric and oblique projection Dimensioning	11 13	11.1 - 11.22 13.1 - 13.25
11	Limit dimensioning and tolerances	13	13.1 - 13.25
12	Development and intersections	10	All sections
13	ISO and ANSI threads	14	14.1 - 14.17