EG 2100 Engineering Graphics

Course Information – Fall 1999

Instructor	Jaime P. Santiago Office Phone E-mail	Department of Science and Technology J209 539-2865 santiago@gprc.ab.ca
Schedule	Lecture Laboratory	1:00 – 2:20, MW, J228 2:30 – 4:20, J203; 5:30 - 6:20, J101 (L1 on Wednesdays and L2 on Thursdays)
Web Page	www.gprc.ab.ca/courses_and_programs/engineering/eg2100.html	
Lectures	Principles of engineering graphics, technical sketching and instrument drawing. Introduction to Windows 95/NT, Web browser, E-mail, FTP, Windows/NT Explorer AutoCAD Release 14	
Laboratories	Laboratories are basically a self-paced tutorials using the required textbook. The instructor is available during lab times to help students do the tutorial lessons and troubleshoot individual problems. The regular laboratory time is not sufficient to finish the required assignments. You will have to spend time each week outside regular lab times. You may use the lab at any time it is not booked for another course. The instructor will arrange access to the labs.	
Assignments	All homework for marking is due at the end of the lab period unless otherwise specified. AutoCAD drawing printouts are to be handed in to the instructor while drawing files must be transfered by FTP to the computer designated by the instructor.	
Project	In the latter part of the course you will concentrate on a group CAD project of your own choice. The project must first be approved by the instructor. Projects must involve be 3D solids or a relatively complex 2D problem.	
Marks Distribution	Drawing Labs CAD Labs Drawing Midterm CAD Midterm CAD Project Drawing Final CAD Final	15 % 10 % 15 % 10 % 15 % 20 % 15 %
Required Texts	James H. Earle: *Graphics Technology* T. T. Wohlers: *Applying AutoCAD – for AutoCAD Release 14* Drawing Laboratory Problems (supplied by instructor)	
Materials	3.5" floppy diskettes mechanical pencil pencil leads (2H, 4H and F) eraser 3 scales (metric, engineers and architect) compass	1.44 MB PC formatted 0.5 mm 0.5 mm triangular metric, engineers (decimal inch) and architect

	compass divider 30°- 60°- 90° triangle 45° triangle protractor masking tape	and architect

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Course Objectives

I.

- Learn the basic principles of engineering graphics and technical drawing.
- Develop 3 dimensional visualization skills.
- Learn how to read, sketch and draw multiview and pictorial engineering drawings.
- Be able to explain the basic principles of design.
- Communicate graphics concepts on paper or in AutoCAD.
- Convey information about simple three-dimensional objects using freehand orthographic and pictorial drawings or AutoCAD.

II.

- Have a working knowledge of AutoCAD R14.
- Be able to output properly scaled drawings to a laser printer.
- Explain the features, limitations, and considerations associated with the commands and characteristics of AutoCAD.
- Utilize AutoCAD's mode settings, drawing aids, shortcuts and other features.
- Produce accurately scaled drawings.
- Apply AutoCAD to a specific drafting discipline, such as architectural drafting, mechanical drawing, subdivision plans, electrical/electronic design, etc.

III.

- Have a working knowledge of Windows NT, NT Explorer, Internet Explorer, Netscape Navigator, FTP and email.
- Use the operating system to organize and manage computer files.
- Demonstrate a general working knowledge of Windows operations and applications.
- Be able to use internet applications such as web browsers, ftp clients and email clients.

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Examinations

Midterm Examinations

- includes both mechanical drawing and CAD components
- mechanical drawing component is worth 15 % of the course mark
- will be written on Wednesday, 13 October, 1999 during the lecture period.
- AutoCAD component is worth 10 % of the course mark.
- AutoCAD component is an open-book practical exam on the computer
- will be held on Wednesday and Thursday, 13/14 October, 1999.

Final Examination

- has mechanical drawing and CAD components
- mechanical drawing component is worth 20% of the course mark
- AutoCADD component is worth 15 % of the course mark.
- will be held in December at a date and time to be announced later.

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Lecture Schedule

Day	Date	Topic	Text Sections
Wednesday	Sept. 8	Course Introduction	
Monday	Sept. 13	Drafting Techniques	Earle Ch 3.1-3.4, Ch 4
Wednesday	Sept. 15	Scales	Earle Ch 3.5
Monday	Sept 20	Geometric Construction	Earle Ch 5.1-5.4, 5.7, 5.10, 5.12-5.13
Wednesday	Sept 22	AutoCAD	Wohlers Units 6-10
Monday	Sept. 27	Orthographic Sketching	Earle Ch 6
Wednesday	Sept. 29	AutoCAD	Wohlers Units 11-15
Monday	Oct. 4	Orthographic drawings	Earle Ch 7.1-7.20
Wednesday	Oct. 6	Pictorials	Earle Ch 18.1-18.5
Monday	Oct. 18	Sections	Earle Ch 9
Wednesday	Oct. 20	AutoCAD	Wohlers Units 22,23,28,29,30
Monday	Oct. 25	Dimensioning	Earle Ch 13
Wednesday	Oct. 27	AutoCAD	Wohlers Units 24-27, 31
Monday	Nov. 1	Auxiliary Views	Earle Ch 8.1-8.11
Wednesday	Nov. 3	AutoCAD	Wohlers Units 32-36
Monday	Nov. 8	Descriptive Geometry	Earle Ch 19, 20.2-20.3, 20.8, 21.2-21.5
Wednesday	Nov. 10	Slope, bearing, strike, dip, contour maps, etc.	Earle Ch 20.4-20.11
Monday	Nov. 15	Revolution	Earle Ch 22
Wednesday	Nov. 17	AutoCAD	Wohlers Units 37-39, 41-43
Monday	Nov. 22	Intersections and Development	Earle Ch 24.2, 24.4-24.7,24.10-24.16
Wednesday	Nov. 24	AutoCAD	Wohlers Units 44-47, 50-51
Monday	Nov. 29	Screws and Fasteners	Earle Ch 10.2-10.9

Wednesday	Dec. 1	AutoCAD	Wohlers Units 52-57
Monday	Dec. 6	Tolerancing	Earle Ch 14.1-14.9
Wednesday	Dec. 8	Design	Earle Ch 2