Grande Prairie Regional College
Department of Science and Technology

EG 2100 – Engineering Graphics
Fall, 2002
3.5(2-1-3)UT

Course Outline

Sketching, drafting and interpretation of pictorials and multiviews of three-dimensional objects, visual design, introduction to scales, sectioning, and dimensioning are included in the course content. (CADD is required for one third of the course credit.)

Note: Chemical, Electrical, Computer Engineering and Engineering Physics will not accept this course.

Instructor	Jaime P. Santiago J209 539-2865 jsantiago@gprc.ab.ca			
Lecture	W	1:00 - 2:20 pm	J202	
CAD Seminar	F	1:30 – 2:50 pm	J101	
Laboratory	L1:	W 2:30 – 4:20 pm	J202	
		F 3:00 – 3:50 pm	J201	
	L2:	TBA TBA TBA		
		TBA TBA TBA		
Textbooks	**Engineering Graphics**, 7th Edition by F. Giesecke, A. Mitchell, H. Spencer, I. Hill, R. Loving, J. Dygdon and J. Novak			
	A Tutorial Guide to Autocad 2000 by Shawna Lockhart			
Drawing Lab Workbook	**Engineering Drawing, Problem Series 1** by F. Giesecke, A. Mitchell, H. Spencer, I. Hill, J. Dygdon, J. Novak			

Marks Distribution

Drawing Labs	10 %	**Drawing Final Exam (date TBA)**	20 %
CAD Labs	10 %	**CAD Final Exam (Dec 4/6)**	20 %
Drawing Midterm Exam (Oct 23/25)	10 %	**CAD Project**	20%
CAD Midterm Exam (Oct 23/25)	10 %		

Lecture and AutoCAD Seminar Topics

Lecture materials are from *Engineering Graphics* by Giesecke, *et. al.*. AutoCAD topics *are A Tutorial Guide to Autocad 2000* by Lockhart.

Lectures			AutoCAD Seminars
Week	**Topic**	**Giesecke, *et. al.* Chapters**	**Topic**
Sep 2-6	Introduction to course; the graphic language and design	1	Introduction to AutoCAD, Web browser and FTP software, Chapters 1 and 2
Sep 9-13	Lettering, the alphabet of lines; scales	3	Tutorial 1 – Introduction to AutoCAD (up to p52, Erase)
Sep 16-20	Geometric Construction	4	The rest of Tutorial 1
Sep 23-27	Isometric and Oblique Pictorials	5, 16, 17	Tutorial 2 – Basic Construction Techniques
Sep 30-Oct 4	Multiview Projection	5, 6	Tutorial 3 – Basic Editing and Plotting Techniques
Oct 7-11	Sectional Views	7	Tutorial 4 – Geometric Construction
Oct 14-18	Auxiliary Views	8	Tutorial 5 – Template Drawings
Oct 21-25	**Sketching/Drawing Midterm Exam**		**AutoCAD Midterm Exam**
Oct 28-Nov 1	Dimensioning	11	Tutorial 6 – Orthographic Drawings
Nov 4-8	Intersection, Revolution and Development	9, 21, 22	Tutorial 7 - Dimensioning
Nov 11-15	Threads and Fasteners	13	Tutorial 8 – Using Blocks and Customizing Toolbars Tutorial 9 – Introduction to Solid Modeling (up to p311)
Nov 18-22	Contour maps; bearing, strike and dip; outcrop, profiles	24	The rest of Tutorial 9 Tutorial 10 – Changing and Plotting Solid Models

Nov 25-29	AutoCAD Project Presentations		Tutorial 11 – Creating Assembly Drawings from Solid Models Tutorial 12 – Creating Section Views Using 2D and Solid Modeling
Dec 2-6	AutoCAD Project Presentations		AutoCAD Final Exam

Sketching/Drawing Labs

Week	Topic	Drawing Sheets
Sep 9-13	Lettering	Parts of Sheets 1, 2, 3, 6, 7, 8 (more information will be provided in class)
Sep 16-20	Geometric Construction	17, 18, 19, 20
Sep 23-27	Technical Sketching	Parts of Sheets 23, 24, 25, 26, 28
Sep 30-Oct 4	Scales Orthographic Drawing	15, 37
Oct 7-11	Oblique and Isometric Sketching Oblique and Isometric Drawing	66, 73 69, 76
Oct 14-18	Sections	Parts of Sheets 41, 44, 45
Oct 21-25	Primary and Secondary Auxiliary Views	Parts of Sheets 52, 54, 57, 60
Oct 30-Nov 1	Midterm Exam	
Nov 4-8	Dimensioning	79, 82
Nov 11-15	Threads Development	85, 86 Handout
Nov 18-22	Contour Maps, Outcrop Profiles	Handouts
Nov 25-29	Slope and Bearing of a Line Strike and Dip	Handouts

All sketching and drawing lab work are due at the end of the period.

Materials:

0.5 mm mechanical pencil, F or HB lead
eraser, erasing shield
metric, engineers and architect's scales
compass
divider
30-60-90 degree triangle, 45 degree triangle
protractor
masking tape

3.5" floppy diskette, CD-R or CD-RW blanks eds

AutoCAD Drawing Assignments

All drawing assignments are from Lockhart's textbook. All drawings must be printed and handed in to the instructor at the end of the lab. AutoCAD drawing files must be named as indicated in the table below and uploaded via FTP. Create a subdirectory for each week's assignments (call the directories Week1, Week2, etc.) and FTP the required files to the proper directory. **Files with incorrect names and in the wrong folders/directories will not be marked.**

Week Due	Textbook Chapters	Problems	Filenames
Sep 16-20	Tutorial 1	1.1 Baseplate 1.2 Bracket 1.3 Site Boundary	Prb1-1.dwg Prb1-2.dwg Prb1-2.dwg
Sep 23-27	Tutorial 1	1.4 Filter Plate 1.9 Dorm Room	Prb1-4.dwg Prb1-9.dwg
Sep 30-Oct 4	Tutorial 2	2.3 Flange 2.5 Plot Plan 2.10 Level Crank	Prb2-3.dwg Prb2-5.dwg Prb2-10.dwg
Oct 7-11	Tutorial 3	3.2 Bracket 3.4 Roller Support 3.7 Circuit Board	Prb3-2.dwg Prb3-4.dwg Prb3-7.dwg
Oct 14-18	Tutorial 4	4.5 Floor Plan 4.8 Foundry Hook	Prb4-5.dwg Prb4-8.dwg
Oct 21-25		Midterm Exam	
Oct 28-Nov 1	Tutorial 5	5.5 Grab Link 5.6 Idler Pulley Bracket 5.9 Saw Blade	Prb5-5.dwg Prb5-6.dwg Prb5-9.dwg
Nov 4-8	Tutorial 6	6.2 Shaft Guide 6.7 Shaft Support	Prb6-2.dwg Prb6-7.dwg
Nov 11-15	Tutorial 7	7.4 Angle Bracket 7.6 Bearing Box	Prb7-4.dwg Prb7-6.dwg
Nov 18-22	Tutorial 8 Tutorial 9	8.2 Decoder Logic Unit 8.3 Floor Plan Figure 9.26 on p311	Prb8-2.dwg Prb8.3.dwg Fig9-26.dwg
Nov 25-29	Tutorial 9 Tutorial 10	9.4 Chess Piece 9.5 Bushing Holder Object created in after finishing Tutorial 10	Prb9-4.dwg Prb9-5.dwg Tut10.dwg

AutoCAD Project

AutoCAD projects are group projects. Each group of two students shall submit a project proposal before midterm exam week. (Forms and further instructions will be provided by the instructor later.) All projects must be in an area of engineering and must be approved by the instructor before proceeding. Each group shall make a Powerpoint presentation to the rest of the class. Each group presentation shall be marked by the rest of the class and the instructor. The average mark given by the class will be blended with the instructor's mark (50-50) for the final project mark. More information will be provided later in class and on the course website.