Grande Prairie Regional College
Department of Science and Technology

W.97

EG 2080 Computer Aided Design

3.0(2-1-1) UT(3) Winter
U of A Equivalent - Engg 208
Course Information

Calendar Description: Introduction to microcomputers and microcomputer-aided design for non-engineering students. Introduction to multi-view drawing for a variety of applications. MS-DOS commands for the beginner. Computer-aided drawing using AutoCAD on IBM compatible microcomputers. This course is not open to students registered in Engineering or Science.

Instructor	Dr. Jaime P. Santiago J209, 539, 2865
Lecture	Wednesdays 6:30 - 8:20 p.m., J228
Seminar	Thursdays 6:30 - 7:30 p.m., A307
Laboratory	Thursdays 7:30 - 8:30 p.m., A307
Textbook	No textbook -- instructor will provide handouts
Laboratory Manual	Applying AutoCAD, A Step-By-Step Approach for AutoCAD Release 11 by Terry T. Wohlers

Marks Distribution

AutoCAD Assignments	15%
Lecture Midterm Exam	12.5%
AutoCAD Midterm Exam	12.5%
Lecture Final Exam	22.5%
AutoCAD Final Exam	22.5%
AutoCAD Project	15% (+maximum 5% bonus)

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Lectures

Lecture topics include the theory of technical drawings, technical sketching, the design process and the role of CAD in the design process. Lectures will also introduce basic DOS commands. After midterm exams, lectures will concentrate on AutoCAD.

Seminars

Through seminars, the instructor will introduce the important concepts and commands to be learned in the following weeks set of AutoCAD units and how they are used to create technical drawings.

Laboratory

There will be one student per CAD station. In the lab the student will gradually build up his/her repertoire of AutoCAD commands following the lab manual. The manual is designed in a self-study/tutorial mode. The instructor will be available to assist the student. Lab time is not sufficient to go through the assigned units and assignments. The student is expected to work on his/her own time. Assignments are due every week.

Examinations

Separate lecture and AutoCAD midterm exams will be written during midterm exam week. Mid-term exams will be written on Wednesday and Thursday, February 19 and 20.

Project

Each student is required to submit at the end of the semester an approved CAD project report including write-ups, drawings, computer files, etc. A project proposal must be submitted to the instructor for approval before winter break. More details will be provided later.

Materials

3.5" HD floppy disks, pencil (HB) and eraser (white plastic)
Optional equipment: drafting scales (triangular metric, engineering, architect)

EG 2080 Detail Course Outline

Week	Lecture Topic	AutoCAD Seminar	AutoCAD Lab
1	Course introduction, lettering, sketching	Introduction to MS-DOS	Introduction to MS-DOS
2	Scales and scale reading	ACAD 1: Units 1-4, 8, 9	DOS assignment due
3	Orthographic projection	ACAD 2: Units 5-7, 10-12	ACAD 1 assignment due
4	Isometric and oblique pictorials	ACAD 3: Units 13-18	ACAD 2 assignment due
5	Perspectives	ACAD 4: Units 19-21, 24-26	ACAD 3 assignment due
6	Sections (Basic dimensioning and auxiliary views will not be covered in the lecture. However, a handout will be provided covering the material.)	ACAD 5: Units 22-23, 27-30	ACAD 4 assignment due
7	Lecture Midterm Exam	AutoCAD Midterm Exam	AutoCAD Midterm Exam
8	Customizing AutoCAD (Screen and Pull-down menus)	ACAD 6: Units 48, 49	ACAD 5 assignment due

9	Customizing AutoCAD (Slides, slide shows and icon menus)	ACAD 7: Units 57, 58	ACAD 6 assignment due
10	Units 31-36	ACAD 8: Units 31-36	ACAD 7 assignment due
11	Units 37, 38, 39, 46, 47	ACAD 9: Units 37,38, 39, 46, 47	ACAD 8 assignment due
12	Units 40-45	Work on projects.	ACAD 9 assignment due
13	Class room presentations	Classroom presentations	Classroom presentations

AutoCAD Labs

Note: An assignment sheet will be handed out each week consisting of multiple choice, true or false, or short answer questions.

AutoCAD Assignment No.	Wohlers Units	Assignment Problems
DOS assignment		Handout
ACAD 1	1. En Route We pass the Main Menu	
	2. The Line Forms Here	
	3. And Around We Go	PRB3-3
	4. Now You See It	
	8. Four Favorable Features	PRB8-3
	9. Helpful Drawing Aids	PRB9-1, PRB9-3
ACAD 2	5. Help	
	6. Becoming a Keyboard Artist	PRB6-1
	7. Snagging Points	PRB7-2
	10. Undoing What You've Done	
	11. Altering Entities	PRB11-5
	12. Moving and Duplicating Objects	PRB12-2
ACAD 3	13. The Powerful ARRAY Command	PRB13-6
	14. Modifying and Maneuvering	PRB14-1
	15. AutoCAD's Magnifying Glass	
	16. Getting from Here to There	PRB16-1(step 1 only)
	17. Viewports in Model Space	
	18. AutoCAD File Maintenance	
ACAD 4	19. Placing Notes and Specifications	All
	20. Preparing for a New Drawing	
	21. Layering Your Drawing	PRB21-1
	24. Heavy and Solid Objects	All
	25. Joining Straight and Curved Objects	PRB25-6
	26. A Calculating Strategy	PRB26-2
ACAD 5	22. Basic Dimensioning	
	23. Advanced Dimensioning	PRB23-1
	27. Building Blocks	PRB27-1
	28. Symbol Library Creation	Handout
	29. Remarkable Attributes	Handout
	30. Bill of Materials Generation	Handout
ACAD 6	48. An Internal Peek at AutoCAD's Menus	Handout
	49. Creating Custom Screen Menus	Handout
ACAD 7	57. Lights, Camera	Handout
	58. Icon Menus	Handout
ACAD 8	31. Dressing Your Drawing	PRB31-3
	32. From Display to Paper	

	33. Isometrics: Creating Objects from a New Angle	PRB33-5
	34. The Third Dimension	PRB34-1
	35. X/Y/Z Point Filters	All
	36. User Coordinate Systems	PRB36-1
ACAD 9	37. Dynamic View Facility	
	38. 3D Revolutions	PRB38-1, PRB38-3
	39. Advanced 3D Wireframe Modeling	PRB39-2, PRB39-4
	46. Viewports in Paper Space	Handout
	47. External References	Handout
ACAD 10	40. Basic Solid Modeling	
	41. Solids vs. Surfaces	
	42. Predefined Primitives	
	43. Boolean Operations	
	44. Tailoring Solid Models	
	45. Downstream Benefits	