

Welcome to CAD! The first part of this class will be spent mastering the AutoCad software and then using it to further develop your drawing and design skills. Like Design and Drawing the second semester of the course will be used to create Architectural plans. This class may open new and exciting opportunities to you, which could include a career in this field.

Text: 1. AutoCAD 2007: A Problem-Solving Approach, Sham Tickoo
2. Architectural AutoCad:Design/Drafting/Presenation, Madsen, Palma

Course Topics:

Week 1 – Chapter 1 Getting Started

1. Starting a Drawing
2. Invoking Commands in AutoCad
3. AutoCad Dialog Boxes
4. Drawing Lines
5. Coordinate Systems
6. Erasing objects
7. Canceling and Undoing a Command
8. Creating Selection Sets
9. Move Command
10. Drawing Circles
11. Basic display commands
12. Creating Text
13. Plotting Drawings
14. Saving Your Work
15. Open an Existing File
16. Start a New Drawing
17. Save Drawing As Dialog Box
18. Select File Dialog Box
19. Automatic Timed Save
20. Creation of Backup Files
21. Options Dialog Box
22. Command Line Recall and Editing
23. AutoCad's Help

Week 3 – Chapter 2: Draw Commands

1. Drawing Arcs
2. Drawing Rectangles
3. Drawing Ellipses
4. Drawing Regular Polygons
5. Drawing Traces
6. Drawing Poly lines
7. Drawing Doughnuts
8. Drawing Points

Week 4 – Chapter 3: Drawing Aids

1. Setting Units
2. Limits Command
3. Layers
4. Layer Property Manager Dialog Box
5. Drafting Settings Dialog Box
6. Status Line
7. Object Snaps

8. Running Object Snap Mode
9. Function and Control Keys
10. Using Auto Tracking
11. Global and Current Line Type Scaling
12. LTSCALE Factor and Plotting

Week 5 – Chapter 4: Editing Commands

1. Creating a Selection Set
2. Editing Commands
3. Copy Command
4. COPYBASE Command
5. PASTE BLOCK Command
6. PASTEORIG Command
7. OFFSET Command
8. Scale Command
9. FILLET Command
10. CHAMFER Command
11. TRIM Command
12. EXTEND Command
13. STRETCH Command
14. LENGTHEN Command
15. ARRAY Command
16. MIRROR Command
17. BREAK Command
18. MEASURE Command
19. DIVIDE Command
20. MATCHING Command
21. PROPERTIES Command
22. QSELECT Command

Week 6 – Chapter 5: Controlling Drawing Display and Creating Text

1. Basic Display Options
2. REDRAW Command
3. REGEN Command
4. ZOOM Command
5. PAN Real-time Command
6. Creating Views
7. TEXT and DTEXT Command
8. Drawing Special Characters
9. Creating Paragraph Text (MTEXT Command)
10. Editing Text
11. Substituting Fonts
12. Specifying an Alternate Default Font
13. STYLE Command
14. Determining Text Height
15. Checking Spelling
16. Formatting Paragraph Text
17. Text Quality and Text Fill
18. Finding and Replacing Text

Week 7 – Chapter 6: Basic Dimensioning

1. Need for Dimensioning
2. Dimensioning in AutoCad
3. Fundamental Dimensioning Terms
4. Associative Dimensioning
5. Definition Points

6. Selecting Dimensioning Commands
7. Quick Dimensioning (QDIM Command)
8. Linear Dimensioning
9. Aligned Dimensioning
10. Rotated Dimensioning
11. Baseline Dimensioning
12. Continue Dimensioning
13. Angular Dimensioning
14. Diameter Dimensioning
15. Radius Dimensioning
16. Generating Center Marks and Centerlines
17. Ordinate Dimensioning
18. Drawing Leaders

Week 8 – Chapter 7: Editing Dimensions

1. Editing Dimensions
2. Editing Dimensions (DIMEDIT Command)
3. Editing Dimension Text (DIMTEDIT Command)
4. Updating Dimensions
5. Editing Dimensions with Grips
6. Editing Dimensions Using the Properties Command
7. Object Properties Window (Dimension)
8. Object Properties Window (Leader)
9. Model Space and Paper Space Dimensioning

Week 9 – Chapter 8: Dimension Styles and Dimensioning System Variables

1. Using Styles and Variables to Control Dimensions
2. Creating and Restoring Dimension Styles
3. New Dimension Style Dialog Box
4. Controlling Dimension Text Format
5. Fitting Dimension Text and Arrowheads
6. Formatting Primary Dimension Units
7. Formatting Alternate Dimension Units
8. Other Dimension Variables
9. Dimension Style Variables
10. Using Dimension Style Override
11. Comparing and Listing Dimension Styles
12. Using Externally Referenced Dimension Styles

Week 10 – Chapter 9: Geometric Dimensioning

1. Editing with Grips
2. Adjusting Grips Settings
3. Stretching Objects with Grips
4. Moving Objects with Grips
5. Rotating Objects with Grips
6. Scaling Objects with Grips
7. Mirroring Objects with Grips
8. Changing Properties using Grips
9. Loading Hyperlinks
10. Editing Gripped Objects
11. Grip System Variable

Week 11 – Chapter 11: Hatching

1. Hatching
2. The BHATCH Command
3. Boundry Hatch Options
4. Ray Casting Options
5. Hatching around Text, Traces, Attributes, Shapes, and Solids
6. Editing Associative Hatch Patterns (HATCHEDIT Command)

7. Using PROPERTIES Command
8. Editing Hatch Boundary
9. Hatching Blocks and Xref Drawings
10. Pattern Alignment During Hatching
11. The Boundary Command
12. Other Features of Hatching
13. Hatching by Using the Hatch Command

Week 12 – Chapter 12: Blocks

1. The Concept of Blocks
2. Formation of Blocks
3. Converting Objects into a Block
4. Inserting Blocks
5. INSERT Command
6. –INSERT Command
7. Presetting the Rotation, Angle, and Scale Factors
8. Using AutoCAD Design Center to Insert Blocks
9. Layers, Colors, Line types and Line weights for Blocks
10. Nesting of Blocks
11. Inserting Multiple Blocks (MININSERT Command)
12. Creating Drawing Files (WBLOCK Command)
13. Using the –WBLOCK Command
14. Defining the Insertion Point
15. Editing Blocks
16. Renaming Blocks
17. Deleting Unused Blocks

Week 13 – Chapter 19: Isometric Drawing

1. Isometric Drawings
2. Isometric Projections
3. Isometric Axes and Planes
4. Setting the Isometric Grid and Snap
5. Drawing Isometric Circles
6. Dimensioning Isometric Objects
7. Isometric Text

Weeks 14-20- Will spent completing drawings that reinforce the concepts already presented. These drawings will be assigned at the teacher’s discretion. This will include the Term Project.

Week 21 – Architectural drawing introduction

Week 23 – Floor Plans

Week 25 – Elevations

Week 27 – Wall Sections

Week 29 – Foundation Plan

Week 31 – Roof and Plot Plan

Week 32-40- Students will design a new house which adheres to a chosen Architectural style.

Saving a Drawing:

Every Drawing must be saved under the following format
 “LastNameDrawing#Per”

Example: If I completed Drawing number 4 in Third Period I would save it as follows
TanskiDrawing#4Per3

Class Activities:

1. Most activities for this class will be drawings.
2. Some time will be spent organizing your portfolio

Title Block Creation:

Each student will create a unique title block, both A and B sizes, which will be used on most of their drawings for the course. This will be created using criteria that will be given to each student.

Term Project:

Each student will have to choose a very detailed drawing or several smaller ones to be completed as a term Project. The term project will be graded with a rubric which will be provided to the student prior to the project. This project will constitute the students mid-term exam grade

1st House Project:

Each Student will transfer the house that they drew in Design and Drawing to the computer. No major modifications will made to the house at this time.

Portfolio:

Each student is expected to keep a 3-ring binder which will serve as a professional portfolio. This Portfolio will include the following-

1. Table of contents with dividers
2. One section for the course syllabus
3. Assigned Drawing check off list section
4. Term Project Section
5. Portfolio Evaluation Section
6. AutoCad Exercises
7. A section for the first house
8. A section for the second house
9. Handouts and Exercises
10. A burned CD that includes all of your Drawings

Drawing Assignment List:

This list will be used during the first semester of the course. The instructor may vary from this list at their discretion throughout the course.

Drawing Equipment:

Each student is responsible for your computer for the duration of the year. Treat your workstation with respect!