INTDS 285 CAD I I

COURSE LEARNING OUTCOMES (CLOs)

1. To identify the role of AutoCAD drafting within the larger context of the project team, the project, and the industry.
2. To recognize industry specific terminology as it pertains to CAD.
3. To use industry specific terminology to communicate with other design team members and design professionals.
4. To gain a basic understanding of CAD software and the necessary skills needed to complete two dimensional drawings using industry specific software.
5. To apply the basic computer drafting skills toward the completion of design projects using industry specific software.
6. Accurately estimate the time needed to complete 2 dimensional architectural drawings using CAD.
7. Determine the level of detail and precision required to produce architectural drawings using CAD.

Course Outline:

1. Preparing to Draw with CAD I
    A. Objectives:
        a. Introduction to the CAD I user interface and workspaces
        b. Modify and save a workspace
    B. Tutorial 1-1: Examine the CAD I Screen and Save a Workspace
    C. Review Questions

2. Drawing with CAD I: Basic Settings and Commands
    A. Objectives:
        a. Introduction to CAD I settings such as Units, Limits, Grid, Snap, Ortho
        b. Introduction to the Cartesian Coordinate System
        c. Introduction to Layers
        d. Draw using absolute, relative, and polar coordinates, and direct distance entry
        e. Use zoom commands to manipulate the viewing area of the drawing
        f. Use selection options such as window, all, remove, undo
        g. Use drawing commands such as line, arc, circle, ellipse
        h. Use move and copy commands to create and modify objects
        i. Use grips to modify objects
    B. Tutorial 2-1: Part 1, Beginning an CAD I Drawing
    C. Tutorial 2-1: Part 2, Drawing Lines, Circles, Arcs, Ellipses, and Donuts
    D. Review Questions
    E. Exercise 2-1: Drawing Shapes I
    F. Exercise 2-2: Drawing a Pattern
    G. Exercise 2-3: Drawing Shapes II
    H. Exercise 2-4: Drawing a Door

3. Drawing with CAD I: Conference and Lecture Rooms
    A. Objectives:

        a. Create simple floor plans using a variety of CAD I commands, such as: Arc, Array, Break, Chamfer, Copy, Distance, Divide, Explode, Fillet, From, Hatch, ID Point, Line, Measure, Mirror, Offset, Osnap, Pickbox, Point, Polygon, Polyline, Polyline Edit, Rectangle, Rotate, Tracking, Trim
        b. Draw using polar tracking
    B. Tutorial 3-1: Drawing a Rectangular Conference Room, Including Furniture
    C. Tutorial 3-2: Drawing a Rectangular Lecture Room, Including Furniture
    D. Tutorial 3-3: Drawing a Curved Conference Room
    E. Tutorial 3-4: Drawing a Conference Room with Angles
    F. Review Questions
    G. Exercise 3-1: Drawing a Rectangular Conference Room, Including Furniture
    H. Exercise 3-2: Drawing a Rectangular Lecture Room, Including Furniture

4. Adding Text, Tables, and Raster Images to a Drawing
    A. Objectives:
        a. Use Text Style settings to control the appearance of text
        b. Add text to drawings using Dtext and Mtext commands
        c. Use the Table command to create door and window schedules
        d. Use Raster Image commands to insert pictures into CAD I drawings
    B. Tutorial 4-1: Placing Text on Drawings
    C. Tutorial 4-2: Using the Table Command to Create a Door Schedule
    D. Tutorial 4-3: Using the Table Command to Create a Window Schedule
    E. Tutorial 4-4: Using Text and Raster Images to Make a Business Card
    F. Review Questions

5. Printing and Plotting
    A. Objectives:
        a. Basic understanding of model space and paper space
        b. Create different layout tabs for drawings
        c. Print/Plot drawings from a model or layout tab
        d. Print/Plot drawings at various scales
    B. Tutorial 5-1: Plot Responses for CH2-TUTORIAL1, Using the Model Tab
    C. Tutorial 5-2: Print/Plot Responses for CH3-TUTORIAL1, Using a Layout Wizard
    D. Tutorial 5-3: Print/Plot Responses for CH3-TUTORIAL2, Using a Layout Tab and Page Setup Manager
    E. Review Questions

6. Drawing the Floor Plan: Walls, Doors, and Windows
    A. Objectives:
        a. View, modify, copy, and display object properties using List, Match Properties, and Properties commands
        b. Use Multiline commands while creating floor plans
        c. Save objects as blocks and then insert the blocks into the floor plans
    B. Tutorial 6-1: Tenant Space Floor Plan
    C. Tutorial 6-2: Hotel Room Floor Plan
    D. Review Questions
    E. Exercise 6-1: Wheelchair Accessible Commercial Bathroom Floor Plan
    F. Exercise 6-2: Wheelchair Accessible Residential Bathroom Floor Plan

G. Exercise 6-3: Log Cabin Floor Plan

7. Dimensioning and Area Calculations
    A. Objectives:
        a. Understand the function of dimensioning variables
        b. Set dimensioning variables
        c. Save and restore dimensioning styles
        d. Use dimensioning commands and variables
        e. Create dimensioned floor plans
    B. Tutorial 7-1: Dimensioning the Tenant Space Floor Plan Using Linear Dimensions
    C. Tutorial 7-2: Associative Dimension Commands and Grips
    D. Tutorial 7-3: Part 1, Tenant Space Total Square Feet
    E. Tutorial 7-3: Part 2, Tenant Space Square Foot Summary Table
    F. Review Questions
    G. Exercise 7-1: Hotel Room Dimensioned Floor Plan
    H. Exercise 7-2: Wheelchair Accessible Commercial Bathroom Floor Plan
    I. Exercise 7-3: Wheelchair Accessible Residential Bathroom Floor Plan
    J. Exercise 7-4: Log Cabin Dimensioned Floor Plan

8. Final Project
    A. Objectives:
        a. Demonstrate skills by producing a floor plan, including furniture, as well as interior elevations using CAD I.