INTD-1120: ARCHITECTURAL DRAFTING FOR INTERIORS I

Cuyahoga Community College

Viewing: INTD-1120 : Architectural Drafting for Interiors I

Board of Trustees:

January 2024

Academic Term:

Fall 2024

Subject Code

INTD - Interior Design

Course Number:

1120

Title:

Architectural Drafting for Interiors I

Catalog Description:

Introduction to two-dimensional computer-aided drafting (CAD). Learn and apply basic and intermediate CAD commands to draw, edit, and plot drawings of architectural exteriors, interiors, elevations, sections, and details for the purpose of design, documentation, and presentation.

Credit Hour(s):

3

Lecture Hour(s):

1

Lab Hour(s):

4

Requisites

Prerequisite and Corequisite

INTD-1101 Hand Drafting and Sketching for Interiors, and INTD-1111 Introduction to Interior Design, and MATH-1190 Algebraic and Quantitative Reasoning or concurrent enrollment; or any approved Ohio Transfer 36 Mathematics course, or concurrent enrollment.

Outcomes

Course Outcome(s):

Apply knowledge of the concepts and features of the AutoCAD system as related to architectural drawing of interiors and use the CAD software to increase capability and productivity.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Discuss the application of AutoCAD as related to architectural drawings.
2. Demonstrate the ability to develop, store, use and edit a block.
3. Design dimension objects following proper architectural standards and practices with the application of dimensioning options and edits.
4. Explain and implement the inquiry command concepts.
5. Demonstrate proper use of text as it relates to architectural interior drafting and use the text command concepts.
6. Demonstrate and explain the use of the design center and tool palettes as they relate to interiors.
7. Set up a custom drawing template and create drawing standards for text, leaders, annotations and dimensions.
8. Set up a drawing creating the initial geometry and edit existing geometry or drawing setups in current drawings and new drawings.
9. Identify the major components of an AutoCAD workstation, and the operating systems needed to power up the computer, handle files and implement the AutoCAD programs.
10. Understand command entry and develop the ability to open, begin a new drawing, plot and save a drawing file using file commands.

11. Perform the various draw command concepts, including drawing lines, arcs, circles, polygons and text, while understanding the various options under each draw command.
12. Implement the modify command concepts to properly edit existing objects.
13. Select and utilize the proper formatting for a drawing setup.
14. Explain and utilize object snap and object snap tracking.
15. Explain the use of layers and object properties.
16. Use the hatch command and edit features.

Course Outcome(s):

Communicate with other CAD operators; particularly architects, interior designers and ancillary professionals in the construction industry, using the terms and definitions applicable to AutoCAD.

Essential Learning Outcome Mapping:

Critical/Creative Thinking: Analyze, evaluate, and synthesize information in order to consider problems/ideas and transform them in innovative or imaginative ways.

Objective(s):

1. Define AutoCAD specific terminology.
2. Use appropriate AutoCAD based vocabulary when discussing drawing projects.
3. Discuss the advantages and disadvantages of the AutoCAD software as it relates to the idea sketch, bubble and block drawings.
4. Share the AutoCAD file with other software programs such as Maya, Revit, and SketchUp for three dimensional rendering of interiors.

Course Outcome(s):

Create construction documents utilizing knowledge of AutoCAD tools and features while adhering to architectural standards.

Essential Learning Outcome Mapping:

Quantitative Reasoning: Analyze problems, including real-world scenarios, through the application of mathematical and numerical concepts and skills, including the interpretation of data, tables, charts, or graphs.

Objective(s):

1. Create a PDF.
2. Demonstrate setting up sheet sheets with appropriate title block and information.
3. Demonstrate plotting a set of construction drawings.
4. Discuss and explain the layout of construction document sheets.
5. Demonstrate the ability to draft interior floor plans, exterior and interior elevations, building sections, wall sections, details and schedules.
6. Create drawings at different scales.

Methods of Evaluation:

A. Quizzes
B. Plotted midterm drawings
C. Plotted final drawings
D. Drawing assignments, worksheets, and projects

Course Content Outline:

1. Introduction to the computer and AutoCAD system with an emphasis on interior design
   a. Operating systems and platforms for industry standard software
   b. Hardware; loading the AutoCAD program
   c. Drawing editor and startup dialog box
   d. Graphics area screen display arrangement
   e. Menu breakdown and selections
   f. Dialog boxes, toolbars and palettes
2. Input device commands
   a. Mouse
   b. Keyboard
   c. Menus

    d. Icons
    e. Keyboard shortcuts - aliases
3. Introduction to AutoCAD file commands
    a. Begin and name new files
    b. Create new drawing dialog box
    c. Save architectural dwg files
    d. Print individual sheets and plot full size drawing files and sets
    e. Open existing files
    f. Architectural drawing setup for units and limits
    g. Close
    h. Exit
    i. Recover
    j. Backup files
4. Introductory draw commands
    a. Line and point entry
    b. Coordinate systems: universal, absolute, relative, polar
    c. Circles and arcs
    d. Dtext and Mtext commands and justification
5. Drawing aids and display features
    a. Grid, snap, ortho, polar, status bar commands
    b. Object snap and object snap tracking
    c. Dynamic user coordinate system (DUCs) and dynamic input display
    d. Linetypes and lineweights
    e. Help
    f. Zoom, pan and view commands
    g. Model space and paper space
6. Basic editing
    a. Erase command and selection options
    b. Undo and redo
    c. Move and copy
    d. Offset and mirror
    e. Trim and extend and lengthen
    f. Fillets and chamfers
7. Intermediate draw commands
    a. Polygons
    b. Polylines
    c. Spline
    d. Donut
    e. Hatching
    f. Multiline
8. Intermediate editing
    a. Scale
    b. Rotate
    c. Stretch
    d. Lengthen
    e. Divide and measure
    f. Change, ddedit, chprop, and ddmodify
    g. LTS scale
    h. Properties
9. Special Features
    a. Grips
    b. Layers
    c. Pline and mline
    d. Blocks, attributes, create and store, dynamic blocks
10. Inquiry
    a. Distance
    b. List

    c. Determine area, perimeter
    d. Measure
11. Dimensioning
    a. Types
    b. Special options
    c. Special editing
    d. Dimensioning variables
12. Proper format for architectural drawings
    a. Units
    b. Paper size
    c. Display
    d. Border
    e. Layers
    f. Template files
    g. Scale
    h. Prototype drawing
    i. Sheet sets
13. Architectural Design center
    a. Options
    b. Insert blocks using the design center
14. Internet tools
    a. Online block downloading of blocks
    b. AutoCAD Impressions download
15. Viewports
    a. Editing in paper space
    b. Scaling
    c. Use of proper terminology
16. Working in a diverse environment
    a. Effective verbal communication
    b. Effective email communication technique
17. Development of foundation or basement plan for construction documents using AutoCAD
    a. Walls
    b. Doors
    c. Windows
    d. Dimensions
    e. Line weights
    f. Architectural symbols (North Arrow)
    g. Room tags and Room names
18. Development of floor plans for construction documents using AutoCAD
    a. Walls
    b. Doors
    c. Windows
    d. Dimensions
    e. Line weights
    f. Architectural symbols (North Arrow, Elevation tags and callouts)
    g. Furniture representation
    h. Room tags and Room names
19. Development of building sections, wall sections, and interior sections for construction documents using AutoCAD
    a. Relationship to plans and elevations
    b. Dimensions and notations
    c. Line weights
    d. Architectural symbols (Section Tags)
20. Development of architectural and interior elevations for construction documents using AutoCAD
    a. Walls
    b. Doors
    c. Windows
    d. Dimensions
    e. Line weights

21. Development of schedules for construction documents using AutoCAD
    a. Flooring and finishes
    b. Doors
    c. Windows
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Resources

Ching, Francis D.K. (2020) *Building Construction Illustrated*, Hoboken: Wiley & Sons.

Kilmer, W. Otie., and Rosemary Kilmer. (2021) *Construction Drawings and Details for Interiors: Basic Skills*, New York: Wiley & Sons.

Ching, Francis D.K., and Binggeli Corky. *Interior Design Illustrated.* 6th. Hoboken: Wiley & Sons, 2020.

Lydia Sloan Cline. (2021) *Architectural Drafting for Interior Design*, Fairchild Books.

Stine, Daniel John. (2021) *Residential Design Using AutoCAD 2022*, Mission: SDC Publications.

Resources Other
1. AutoCAD software
2. AutoDesk Help
3. AutoDesk360

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