

Las Positas College
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Course Outline for INTD 61

COMPUTER AIDED DESIGN

Effective: Fall 2008

I. CATALOG DESCRIPTION:

INTD 61 — COMPUTER AIDED DESIGN — 3.00 units

Introduction to basic techniques in computer aided design for interior design, with emphasis on user terminology and hands-on learning. How to set up drawings, dimensioning systems appropriate to architecture. Floor plans, details, drawings and other techniques using the computer.

2.00 Units Lecture 1.00 Units Lab

Grading Methods:

Letter or P/NP

Discipline:

	MIN
Lecture Hours:	36.00
Lab Hours:	54.00
Total Hours:	90.00

II. NUMBER OF TIMES COURSE MAY BE TAKEN FOR CREDIT: 1

III. PREREQUISITE AND/OR ADVISORY SKILLS:

IV. MEASURABLE OBJECTIVES:

Upon completion of this course, the student should be able to:

- A. demonstrate knowledge of basic CAD operations and procedures;
- B. demonstrate knowledge of and the ability to use drawing tools;
- C. demonstrate the ability to modify objects;
- D. demonstrate the ability to use properties components;
- E. demonstrate the use of tilts and hatches;
- F. demonstrate the imposition of text on drawings;
- G. demonstrate the ability to create dimensions;
- H. demonstrate the ability to create layering;
- I. demonstrate the use of blocks;
- J. demonstrate the ability to move a project from sketch to plot;
- K. demonstrate the ability to work in 3D perspectives.

V. CONTENT:

- A. Basic CAD operations and procedures
 - 1. Starting CAD
 - 2. The CAD window
 - 3. Toolbars
 - 4. Palettes
 - 5. Use of the mouse in CAD
 - 6. Model space and paper space
 - 7. Zoom
 - 8. Snap/object snap
 - 9. Specifying coordinates
 - 10. Line tool
 - 11. Dynamic input
 - 12. Saving and closing files
 - 13. Opening files
- B. Drawing tools
 - 1. The draw menu
 - 2. Rectangles
 - 3. Circles
 - 4. Construction lines
 - 5. Polygons
 - 6. Arcs
 - 7. Splines
 - 8. Ellipses/ellipse arcs

- 9. Points
- 10. Polylines
- 11. Selecting and editing objects
- C. Modifying objects
 - 1. The modify toolbar
 - 2. Erase
 - 3. Copy
 - 4. Mirror
 - 5. Offset
 - 6. Array
 - 7. Move
 - 8. Rotate
 - 9. Scale
 - 10. Stretch
 - 11. Trim and Extend
 - 12. Break
 - 13. Join
 - 14. Chamfer
 - 15. Fillet
 - 16. Explode
- D. Properties
 - 1. The properties toolbar
 - 2. Lineweight
 - 3. Linetype
 - 4. Line color
 - 5. Properties palette
- E. Fills and hatches
 - 1. Hatching
 - 2. Gradient fills
- F. Text
 - 1. Text on drawings
 - 2. Single line text
 - 3. Multiline text
 - 4. Bullets and numbering
 - 5. Tables
- G. Dimensions
 - 1. Adding dimensions
 - 2. Leaders
 - 3. Dimension style
- H. Layers
 - 1. Creating layers
 - 2. Layer filters
 - 3. Objects and layers
- I. Blocks
 - 1. Dynamic blocks
 - 2. Inserting a block
 - 3. DC on line
- J. Sketch to plot
 - 1. Sketches
 - 2. Orthographic projection
 - 3. Model space and paper output
 - 4. Setting up and drawing
 - 5. Layouts
 - 6. Viewpoints
 - 7. Plotters and plotting
- K. 3D perspectives
 - 1. 3D modes
 - 2. The Z coordinate
 - 3. 3D polyline
 - 4. Plotting 3D drawings
 - 5. 3D modeling
 - 6. Combining solids
 - 7. Combining materials

VI. METHODS OF INSTRUCTION:

- A. **Lecture** -
- B. **Demonstration** -
- C. Individual consultation
- D. Readings from text and other sources
- E. Analysis/critique of individual exercises and projects
- F. **Guest Lecturers** -
- G. Video
- H. Hands-on activities in computer laboratory
- I. **Field Trips** -

VII. TYPICAL ASSIGNMENTS:

A. Projects using CAD 1. Draw a simple floor plan 2. Draw a floor plan from measurement or another drawn floor plan 3. Do take off drawings; elevations, sections & perspective 4. Do detailed drawings 5. Draw a roof plan 6. Draw a reflective ceiling plan and a lighting plan 7. Draw furniture layout 8. Presentation of final finished design using color, print out, etc

VIII. EVALUATION:

- A. **Methods**
- B. **Frequency**

IX. TYPICAL TEXTS:

1. Shumaker, Terence M. and Madsen, David A. *AutoCAD 200/200i and Its Applications.*, Goodheart-Wilcox Company, Inc., 2001.
2. Leach, James A. *AutoCAD 2007 Instructor.*, McGraw-Hill, 2007.
3. Stellman, Thomas A. and Krishnan, GV *Harnessing AutoCAD 2007.*, Autodesk Press/Thomson Learning, 2007.
4. Grabowski, Ralph *The Illustrated AutoCAD 2007 Quick Reference.*, Autodesk Press/Thomson Learning, 2007.

X. OTHER MATERIALS REQUIRED OF STUDENTS:

- A. A computer (during studio time and outside)