

Las Positas College
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Course Outline for INTD 40

COMPUTER AIDED DESIGN

Effective: Fall 2019

I. CATALOG DESCRIPTION:

INTD 40 — 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:

- Interior Design or
- Ornamental Horticulture

	MIN
Lecture Hours:	36.00
Expected Outside of Class Hours:	72.00
Lab Hours:	54.00
Total Hours:	162.00

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. Apply CAD operations and procedures
- B. Use drawing tools
- C. Modify objects
- D. Use properties components
- E. Demonstrate the use of duplication and reflection.
- F. Demonstrate the imposition of text on drawings
- G. Create dimensions
- H. Create layering
- I. Demonstrate the use of 3d rendering
- J. Move a project from sketch to plot
- K. Print working drawings along with details.

V. CONTENT:

- A. Basic CAD operations and procedures
 1. Starting CAD
 2. Toolbars
 3. Use of functions
 4. Model space and paper space
 5. Zoom
 6. Snap/object snap
 7. Specifying coordinates
 8. Line tool
 9. Saving and closing files
 10. Opening files
- B. Drawing tools
 1. The draw menu
 2. Construction lines
 3. Walls
 4. Ceilings
 5. Floors

- 6. Roof
- 7. Landscape
- 8. Selecting and editing objects
- C. Modifying objects
 - 1. The modify toolbar
 - 2. Erase
 - 3. Copy
 - 4. Mirror
 - 5. Offset
 - 6. Move
 - 7. Rotate
 - 8. Scale
 - 9. Stretch
 - 10. Break
 - 11. Explode
 - 12. Colors
 - 13. Materials
 - 14. Cutting
 - 15. Surfaces
- D. Text
 - 1. Text on drawings
 - 2. Text on Title Blocks
- E. Dimensions
 - 1. Adding dimensions
 - 2. Line weights
 - 3. Dimension style
- F. Layers
 - 1. Creating layers
 - 2. Layer filters
 - 3. Objects and layers
- G. 3D perspectives
 - 1. 3D modes
 - 2. Rendering
 - 3. Fly around
 - 4. Printing of perspectives

VI. METHODS OF INSTRUCTION:

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

VII. TYPICAL ASSIGNMENTS:

- A. Projects using CAD
 - 1. Draw a simple floor plan
 - 2. Draw a floor plan from measurements or follow along with creating a new scaled floor plan
 - 3. Do take off drawings; elevations, sections & perspective
 - 4. Do detailed drawings
 - 5. Draw a roof plan
 - 6. Edit materials
 - 7. Draw furniture layout
 - 8. Presentation of final finished design using color, print out, etc

VIII. EVALUATION:

Methods/Frequency

- A. Projects
- B. Field Trips
- C. Class Participation
- D. Class Work
- E. Home Work
- F. Lab Activities
- G. Final Performance

IX. TYPICAL TEXTS:

- 1. Alina Rutten. *Introduction to Residential Design*. 9th ed., Tech Ed Concepts, INC., 2016.
- 2. Cadsoft Corp. *Introduction to Residential Design*. 12 ed., Tech Ed Concepts, 2016.
- 3. Kim, Marcus, and Lance Kirby. *Mastering Autodesk Revit 2017 for Architecture*. 1st ed., Wiley, 2017.
- 4. Schreyer, Alexander. *Architectural Design with SketchUp: 3D Modeling, Extensions, BIM, Rendering, Making, and Scripting*. 2nd ed., Wiley, 2017.

X. OTHER MATERIALS REQUIRED OF STUDENTS:

- A. A computer (during studio time and outside)
- B. Print card and Flash Drive