DRAF 160: FOUNDATION DIGITAL DESIGN TOOLS - INTERMEDIATE COMPUTER AIDED DESIGN (CAD)

Citrus College Course Outline of Record

Heading	Value
Effective Term:	Fall 2023
Credits:	3
Total Contact Hours:	72
Lecture Hours :	45
Lab Hours:	27
Hours Arranged:	0
Outside of Class Hours:	90
Strongly Recommended:	DRAF 101, one year of high school drafting or industry drafting experience.
Transferable to CSU:	Yes
Transferable to UC:	No
Grading Method:	Standard Letter

Catalog Course Description

Digital design drawing, modeling, tools, skills and concepts actively used in concurrent design studio. Assignments support concurrent design studio activity with an emphasis on introductory to intermediate digital design drawing. Computer-aided design (CAD) systems are applied to special problems in design. Techniques in creating symbol libraries are explored. Proper and efficient methods of producing plan views, sections, details and elevations are introduced along with dimensioning fundamentals and sheet layout. 45 lecture hours, 27 lab hours.

Course Objectives

- have a diversified knowledge of CAD digital design drawing and modeling, tools, skills and concepts and its capabilities as it applies to other disciplines.
- apply the commands of digital design drawing and modeling, tools, skills and concepts to architectural practice
- formulate and assess solutions to problems for future CAD digital design drawing and modeling, tools, skills and concepts.

Major Course Content

Digital design drawing, modeling, tools, skills and concepts actively used in concurrent design studio:

1. Orientation/Introduction
   a. Text
   b. Materials
   c. Grading
2. CAD System Basics
   a. System configuration
   b. Boot up and drawing definition
   c. Menus
3. Plot Plans
   a. Setting up surveyor's units
   b. Bearing angles/property lines
   c. Plot plan exercise
4. Floor Plan
   a. Setting up architectural units
   b. The offset command
   c. The trim command
   d. The extend command
   e. Inserting symbols
   f. Plan exercises
5. Sections/Details
   a. Using the architectural symbol library to create sections and details
   b. Exercises
6. Elevations
   a. Inserting architectural symbols into elevations using the symbol library
   b. Exercises
7. Dimensioning
   a. Setting up the dimensioning variables for architectural applications
   b. Exercises

Lab Content

Students apply the concepts in the lab that are discussed in the lecture.

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   a. Setting up architectural units
   b. The offset command
   c. The trim command
   d. The extend command
   e. Inserting symbols
   f. Plan exercises
5. Sections/Details
   a. Using the architectural symbol library to create sections and details
   b. Exercises
6. Elevations

    a. Inserting architectural symbols into elevations using the symbol library
    b. Exercises
7. Dimensioning
    a. Setting up the dimensioning variables for architectural applications
    b. Exercises

Suggested Reading Other Than Required Textbook

Recommended AutoCad for Architecture, Jefferis/Jones

Examples of Required Writing Assignments

Lab reports and class assignments. Write essays, research papers, lab reports, and story book CAD layout.
Example: Write a report for project research for presentation boards.

Examples of Outside Assignments

Students will produce digital design drawings, modeling, tools, skills and concepts actively used in concurrent design studio and industry. Advanced management concepts such as xrefing, Lisp, and editing the PGP file will be explored. Study - Research requirements for a cad portfolio. Read required materials - Relating to portfolio research Write essays, research papers, lab reports, or journals. Students will be required to complete the following types of assignments outside of the regular class time: draw, study, answer questions, practice skills, read required materials, solve problems, write essays, research papers, lab reports, and journals. Students will also observe activities related to course content, participate in activities related to course content. Research requirements for CAD portfolio. Read required materials - Relating to CAD portfolio research. Observe critiques of CAD portfolio presentations.

Instruction Type(s)

Lab, Lecture, Online Education Lab, Online Education Lecture