ARCH A150: CAD 2-D FOR ARCHITECTURE

Item	Value
Curriculum Committee Approval Date	12/04/2024
Top Code	020100 - Architecture and Architectural Technology
Units	2 Total Units
Hours	54 Total Hours (Lecture Hours 27; Lab Hours 27)
Total Outside of Class Hours	0
Course Credit Status	Credit: Degree Applicable (D)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	No
Open Entry/Open Exit	No
Grading Policy	Standard Letter (S)

Course Description

This course introduces Computer-Aided Design (CAD) as used to produce 2-dimensional architectural drawings. PCs with AutoCAD will be used and instruction will focus on using a computer to draw a simple project, including the following drawing types: floor plan, site plan, elevation, and enlarged section/details. Students should have basic knowledge of computer operation and file management. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Students will be able to draw and print a basic architectural project using CAD software at a level considered entry-level professional quality, as evaluated by the instructor.

Course Objectives

- 1. Set up a new file and construct title block.
- 2. Manage layers to control multiple drawings and with different print scales.
- 3. Operate a CAD program well enough to perform the following basic drawings: floor plan, site plan, elevations, enlarged section/details.
- 4. Plot using model space and paper space and multiple scales.
- 5. Control textures and hatches to represent materials.
- 6. Print and collate a small set of drawings.

Lecture Content

Floor Plan Starting a new file, title blocks, text Basic drawing components: Wall, door window Vector navigation and dimensional control Editing objects Dimensioning Symbols and schedules CAD Concepts Model Space Zoom Layers Parametrics: editing components Paper Space Plotting Site Plan Roof plan Surveyor mode Linetypes: Property, utility, dashed Contours, road work, flat work Graphics: Textures/hatches, north arrow, scale bar Elevations View generation, export views Ground lines Walls, doors, window Roof, overhangs Materials Graphics: Textures, line weights Enlarged Sections and Details View generation Construction elements call outs Scale and textures Symbols: notes, cut lines Line weights Plotting Additional Alternative Drawings for advanced students as recommended by instructor: Reflected Ceiling Plan Interior Elevations Electrical/Lighting Plan Building Section Framing Plan Foundation Plan Landscape Plan Irrigation Plan

Lab Content

Lab content will include the practice of drawings and organization discussed during lecture, including individual and group feedback on performance. Topics will include: Floor Plan CAD Concepts Site Plan Elevations Enlarged Sections and Details Additional Alternative Drawings for advanced students as recommended

Method(s) of Instruction

- Lecture (02)
- DE Live Online Lecture (02S)
- DE Online Lecture (02X)
- Lab (04)
- DE Live Online Lab (04S)
- DE Online Lab (04X)

Instructional Techniques

Lecture and in-class drawing assignments, quizzes, individual and small group activities and instruction.

Reading Assignments

Students will spend a minimum of 1 hour per week reading CAD software documentation as prescribed by instructor

Writing Assignments

Writing for this course only includes minor notations and short professional descriptors. Critical thinking is reinforced in the act of cross-referencing and coordinating this set of drawings.

Out-of-class Assignments

Students will spend a minimum of 2 hours weekly completing CAD drawing assignments

Demonstration of Critical Thinking

Instructor-graded assignments, quizzes and final grading of drawing project package.

Required Writing, Problem Solving, Skills Demonstration

Writing for this course only includes minor notations and short professional descriptors. Critical thinking is reinforced in the act of cross-referencing and coordinating this set of drawings.

Eligible Disciplines

Architecture: Any bachelor's degree and two years of professional experience, or any associate degree and six years of professional experience.

Other Resources

1. Instructor handouts and current software reference book as recommended by instructor.