Course Acronym:	ARCH
Course Number:	119
Descriptive Title:	CAD Drawing and Modeling
Division:	Industry and Technology
Department:	Architecture
Course Disciplines:	Architecture
Catalog Description:	This is a beginning course in the study of Computer Aided Drafting (CAD) and related programs with regard to Architecture. Students learn the application and drawing conventions necessary to produce construction documents and modeling for a building using the latest version of various CAD software.
Prerequisite:	
Co-requisite:	
Recommended Preparation:	
Enrollment Limitation:	
Hours Lecture (per week):	2
Hours Laboratory (per week):	4
Outside Study Hours:	4
Total Course Hours:	108
Course Units:	3
Grading Method:	Letter Grade only
Credit Status:	Credit, degree applicable
Transfer CSU:	Yes
Effective Date:	Prior to July 1992
Transfer UC:	No
Effective Date:	
General Education: ECC	
Term:	
Other:	
CSU GE:	
Term:	
Other:	

IGETC:	
Term:	
Other:	
Student Learning Outcomes:	**SLO #1 Commands for Producing Drawings** Given lecture information, worksheet examples, in-class discussion, and hands-on experience, students will be able to know the commands necessary to produce a set of construction drawings for a small house, using AutoCAD Architectural computer software. **SLO #2 Graphic Techniques** Successful students, completing the Architecture Program, following instructions, supervised classroom practice using CAD system, will use proper graphic techniques to complete instructions. **SLO #3 Spatial Organization** Successful students tracking for graduation transfer, and or employment in the architecture field, will create design drawings and design models to show spatial organization.
Course Objectives:	1. Create architectural construction documents using the commands in AutoCAD. 2. Appraise and assess each major part of the computer's input and output systems and be able to discuss their use within the system. 3. Compare and contrast different computer software packages that architects use in the design of buildings. 4. Choose names of different elements in the drawings to create layers.
Major Topics:	**I. CAD DRAWING AND MODELING OVERVIEW (6 hours, lecture)** A. Student contract B. Student projects **II. COMPUTER VOCABULARY (12 hours, lecture)** A. Operating system types B. Computer hardware components C. Software commands and prompts **III. SOFTWARE VOCABULARY (18 hours, lecture)** A. Command line B. Menus C. Subroutines D. Input and output procedures

IV. DESIGN AND MODIFICATION COMMANDS (16 hours, lab)

    A. Geometric shapes

    B. Modifying data

    C. Draw and modify menu commands

V. USE OF DIMENSIONS AND TEXT (16 hours, lab)

    A. Formatting dimension dialog box

    B. Formatting text dialog box

    C. Various text commands

VI. SETTING UP LAYERS IN THE DRAWING FILE (16 hours, lab)

    A. Naming layers

    B. Off/on freeze and thawing of layers

    C. Color line type and line thickness settings

VII. MODEL SPACE AND LAYOUT SPACE (16 hours, lab)

    A. Designing and drawing in model space

    B. Setting up plotting options in layout space

    C. Choosing potters and size of printed drawing

VIII. ADVANCED TOPICS (8 hours, lab)

    A. Shortcut techniques to produce construction documents

    B. Other menus and dialog boxes

    C. Final drawing presentation

Total Lecture Hours:	36
Total Laboratory Hours:	72
Total Hours:	108
Primary Method of Evaluation:	3) Skills demonstration
Typical Assignment Using Primary Method of Evaluation:	Using AutoCAD, draw an elevation of a stud-framed wall including a door and window using DRAW and MODIFY commands. Submit plotted results to instructor.

Critical Thinking Assignment 1:	Draw a floor plan for a single-family residence, including relevant notes, labels, and dimensions. Insert appropriate window, door, and appliance blocks. Use windows that comply with code-prescribed lighting, ventilation, and egress requirements. Submit floor plan to your instructor.
Critical Thinking Assignment 2:	Draw a roof framing plan for a single-family residence, including relevant notes, labels, and framing symbols. Insert appropriate framing blocks. Correctly identify structural framing direction, sizes and extents. Identify and label structural posts. Submit roof framing plan to instructor.
Other Evaluation Methods:	Class Performance, Other (Computer generated drawing tests)
Instructional Methods:	Demonstration Lab Lecture Multimedia presentations
If other:	
Work Outside of Class:	Problem solving activity Required reading Skill practice Study
If Other:	
Up-To-Date Representative Textbooks:	George Omura. MASTERING AUTOCAD 2019 LT. Sybek, 2019.
Alternative Textbooks:	
Required Supplementary Readings:	
Other Required Materials:	Calculator Architectural scale USB memory drive Miscellaneous drawing and art materials
Requisite:	
Category:	
Requisite course(s): List both prerequisites and corequisites in this box.	
Requisite and Matching skill(s):Bold the requisite skill. List the corresponding course objective under each skill(s).	
Requisite Skill:	

Requisite Skill and Matching Skill(s): Bold the requisite skill(s). If applicable	
Requisite course:	
Requisite and Matching skill(s):Bold the requisite skill. List the corresponding course objective under each skill(s).	
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Requisite Skill and Matching skill(s): Bold the requisite skill. List the corresponding course objective under each skill(s). If applicable	
Enrollment Limitations and Category:	
Enrollment Limitations Impact:	
Course Created by:	Albert Palmer
Date:	09/01/1983
Original Board Approval Date:	
Last Reviewed and/or Revised by:	Reuben Jacobs
Date:	10/03/2023
Last Board Approval Date:	07/17/2023 effective FALL 2024