ARCH A156: BIM 2 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 Building Information Modeling (BIM) as used to produce a 3-dimensional architectural model with detailed construction information. PCs with Autodesk Revit will be used and instruction will focus on computer modeling a simple project and extracting construction documentation. Students should have basic knowledge of computer operation and file management as well as construction. ADVISORY: ARCH A155 or comparable skills with BIM. Transfer Credit: CSU.

Course Level Student Learning Outcome(s)

1. Students will be able to use the advanced features of current BIM software and will have the ability to create a complete BIM model for construction and design purposes at a skilled professional level.

Course Objectives

- 1. Use Building Information Modeling as a construction and design tool.
- 2. Use the advanced features of BIM software.
- 3. Use the basic features of Structures and MEP.
- 4. Use BIM for construction coordination and documentation.
- 5. Use BIM as a design analysis tool.

Lecture Content

BIM User interface Elements and Families Starting and editing a project Create custom parametric objects Linking to other files Working with Structures and MEP Structural Mechanical Electrical Plumbing Integrating systems Construction Coordination NavisWorks clash detection Construction take-offs Cost Estimation Project time schedules Design Model Uses Design and coordination Planning and area calculations Sun Shadow studies Energy performance analysis Rendering Animation

Lab Content

BIM Exercises Starting and editing a project Create families Create custom parametric objects Link to other files Working with Structures and MEP Link models Create content in multiple models Construction Coordination Exercies NavisWorks clash detection Construction take-offs Cost Estimation tools, linking databases Project time schedules Design Model Activities Design and coordination Planning and area calculations Sun Shadow studies Energy performance analysis Rendering Animation

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, projects, individual and small group activities and instruction.

Reading Assignments

Students will spend a minimum of one hour per week rreading BIM 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 designing and coordinating this project and set of drawings.

Out-of-class Assignments

Students will spend a minimum of 2 hours per week completing BIM modeling and drawing assignments

Demonstration of Critical Thinking

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