ID A003N: BUILDING INFORMATION MODELING (BIM) FOR INTERIOR DESIGN

Item	Value
Curriculum Committee Approval Date	11/02/2022
Top Code	130200 - Interior Design and Merchandising
Units	0 Total Units
Hours	90 Total Hours (Lecture Hours 36; Lab Hours 54)
Total Outside of Class Hours	0
Course Credit Status	Noncredit (N)
Material Fee	No
Basic Skills	Not Basic Skills (N)
Repeatable	Yes; Repeat Limit 99
Open Entry/Open Exit	Yes
Grading Policy	P/NP/SP Non-Credit (D)

Course Description

This course introduces Building Information Modeling (BIM) as used to produce a 3-dimensional architectural design model with an emphasis on the development of the interior. PCs with Autodesk Revit or other Industry-standard software will be used and instruction will focus on the interior development of a two-story commercial space with an emphasis on creating walls, doors, windows, materials, ceilings, casework, custom furniture, and rendering. Students should have basic knowledge of computer operation and file management. Noncredit. NOT DEGREE APPLICABLE. Not Transferable.

Course Level Student Learning Outcome(s)

1. Students will be able to demonstrate a well-rounded knowledge of BIM tools and techniques and have the ability to create a complete BIM interiors model integrated with existing architecture for construction and design purposes at a professional level.

Course Objectives

- 1. Develop a well-rounded knowledge of BIM tools and techniques.
- 2. Demonstrate skills that can be applied to enhance professional develop in both academia and industry.
- 3. Create design drawings with an emphasis on the interior elements working with a provided architectural model.
- 4. Illustrate 3D renderings and views using BIM software for an interior design project.
- 5. Understand the basics of operating BIM software and creating and saving new projects.
- 6. Recognize the basic elements in BIM modeling and how to use them and also create custom elements.

Lecture Content

Understanding BIMA. Overview of the software interfaceB. Create a new projectC. Understanding model navigation Introduction to MaterialsA. Detailed overview of materialsB. Material Concepts appliedC. Materials and Custom Parameters ProgrammingA. Introduction to SchedulesB. Understanding a space programC. Developing Bubble Diagrams Floor Plans Wall DevelopmentA. Floor Plan DevelopmentB. Placing Room elements in the modelC. Developing the Interior Fenestrations Stairs and RailingsA. Introduction to StairsB. Introduction to Railings Ceilings LightingA. BIM Ceiling developmentB. Lighting Design Specialty Design FeaturesA. Restroom layoutB. Modeling floor finishesC. Creating a custom reception deskD. Furniture content and placementE. Introduction to detailing WorkflowA. Sheets and RevisionsB. Sheet IndexC. Presentation BoardsD. Prinking a set of drawingsE. Phasing and Worksharing Content CreationA. Basic Family ConceptsB. Creating the GeometryC. Adding ParametersD. Formulas and MaterialsE. Family Types and Categories.

Lab Content

Understanding BIMA. Open, Save and Close a BIM projectB. Using Zoom and Pan to View your drawingsC. Navigating the 3D Model Introduction to MaterialsA. Applied material conceptsB. Modeling floor finishesC. Controlling the graphic representation of elements ProgrammingA. Developing schedulesB. Developing bubble diagrams Floor Plans and Wall developmentA. Create walls, grids, and dimensionsB. Create RoofsC. Annotation, Room tags, and schedulesD. Floor plan development Stairs and RailingsA. Modeling the StairsB. Modeling the Railings Ceiling and LightingA. Modeling CeilingsB. Lighting design layoutC. Rendering the design Specialty Design FeaturesA. Restroom layout and finishesB. Modeling floor finishes: ceramic tile, sheet goods, etc.C. Viewing the graphic representation of custom elementsD. Design OptionsE. Live detail exercise WorkflowA. Creating sheetsB. Creating presentationsC. Rendering tips and tricksD. Workflow exerciseE. Phasing exercise Content CreationA. Customizing elementsB. Importing manufacturer content and models

Method(s) of Instruction

- Enhanced NC Lect (NC1)
- Enhanced NC Lab (NC2)
- Online Enhanced NC Lect (NC5)
- Online Enhanced NC Lab (NC6)
- Live Online Enhanced NC Lect (NC9)
- Live Online Enhanced NC Lab (NCA)

Instructional Techniques

Lecture/Demonstration live or recorded. Assigned exercises and drawings, quizzes, individual and small group discussions and activities.

Reading Assignments

Weekly reading from the textbook - 1 hour/week

Writing Assignments

Research and categorize industry manufacturer's BIM libraries for integration into current and future projects. - 1hr/week

Out-of-class Assignments

Development of an ongoing project delivered in phases for a commercial office project including development of floor plan, walls, doors, windows, furniture layout, custom reception desk, and 3D views. 3- 4 hours/week

Demonstration of Critical Thinking

Instructor graded assignments, quizzes, and comprehensive projects along with student self-reflection.

Required Writing, Problem Solving, Skills Demonstration

Instructor and peer-reviewed discussions and small group exercises to collaboratively solve design problems.

Eligible Disciplines

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

Textbooks Resources

1. Required Stein, Daniel John, Hansen, Aaron R.. Interior Design Using Autodesk Revit 2022, current ed. Mission, KS: SDC Publications, 2022