

**ARCH 65 Course Outline as of Spring 2018****CATALOG INFORMATION**

Dept and Nbr: ARCH 65 Title: 3D MODELING WITH REVIT

Full Title: 3D Modeling with Revit

Last Reviewed: 2/6/2023

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	2.00	Lecture Scheduled	1.00	17.5	Lecture Scheduled	17.50
Minimum	2.00	Lab Scheduled	3.00	6	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	4.00		Contact Total	70.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 35.00

Total Student Learning Hours: 105.00

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly: ARCH 27

**Catalog Description:**

Introduction to the use of Revit for 3D modeling of architecture, interior design, and/or landscape design projects.

**Prerequisites/Corequisites:****Recommended Preparation:**

Eligibility for ENGL 100 or ESL 100 and completion of CS 5

**Limits on Enrollment:****Schedule of Classes Information:**

Description: Introduction to the use of Revit for 3D modeling of architecture, interior design, and/or landscape design projects. (Grade or P/NP)

Prerequisites/Corequisites:

Recommended: Eligibility for ENGL 100 or ESL 100 and completion of CS 5

Limits on Enrollment:

Transfer Credit: CSU;

Repeatability: Two Repeats if Grade was D, F, NC, or NP

## **ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:**

<b>AS Degree:</b>	<b>Area</b>	<b>Effective:</b>	<b>Inactive:</b>
<b>CSU GE:</b>	<b>Transfer Area</b>	<b>Effective:</b>	<b>Inactive:</b>
<b>IGETC:</b>	<b>Transfer Area</b>	<b>Effective:</b>	<b>Inactive:</b>

<b>CSU Transfer:</b>	Transferable	Effective:	Spring 2010	Inactive:
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<b>UC Transfer:</b>		Effective:		Inactive:
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**CID:**

**Certificate/Major Applicable:**

Both Certificate and Major Applicable

## **COURSE CONTENT**

### **Student Learning Outcomes:**

At the conclusion of this course, the student should be able to:

1. Create 3D geometry for modeling of architectural, interior design, and/or landscape design projects using computer software applications.
2. Produce rendered images, screen-captured images, and animations of architectural, interior design, and/or landscape design projects.

### **Objectives:**

During this course, students will:

1. Effectively use 3D modeling programs to support 2D and 3D design development and design presentations.
2. Effectively use digital tools to apply texture, color, light and shadows to models.
3. Export models and views to other programs.
4. Import image or model information from other sources to use in model construction.
5. Print or plot graphic representations of 3D models in hidden line, grayscale and color.
6. Use digital modeling skills in preparing rendered and captured images of architectural, interior design, and/or landscape design projects.
7. Provide guided and animated tours of digitally created environments.

### **Topics and Scope:**

- I. Role of 3D Models in Studying Forms and Presenting Design Concepts in Architecture, Interior Design, and Landscape Design
- II. Principles and Concepts of 3D Modeling and Rendering
  - A. 2D geometry
  - B. Aspects of materials such as: value, color, and texture
  - C. Aspects of form and volume such as: space, scale, balance, rhythm, and proportion
  - D. Aspects of visualization such as: light, focal point, and emphasis
- III. Introduction to Revit
  - A. Program interface components
  - B. Creating 2D geometries
  - C. Modeling 3D forms
  - D. Identifying and applying textures and colors

- E. Depicting light and shadow
  - F. Importing and exporting information from Sketch-Up, AutoCAD, and/or Rhino 3D
  - G. Preparing rendered/captured images
  - H. Generating animations
  - I. Digital tours of the model/environment
  - J. Printing and plotting
- IV. Application to Architectural, Interior Design, and Landscape Environments
- V. Presenting the Results of Digital Modeling
- VI. Oral Presentations and Critiques

All topics are covered in both the lecture and lab portions of this course.

### Assignment:

#### Lecture Related Assignments:

1. Reading: Textbook or instructor provided handouts (20- 40 pages per week)
2. Quizzes (1-3)
3. Final exam or modeling project presentation

#### Lab Related Assignments:

1. Modeling exercises (6-12)
2. Guided tours of models (2-4)
3. Oral presentations and critiques (6-8)

### Methods of Evaluation/Basis of Grade:

**Writing:** Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.

Writing  
0 - 0%

**Problem Solving:** Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Modeling exercises

Problem solving  
40 - 60%

**Skill Demonstrations:** All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Guided tours of models

Skill Demonstrations  
10 - 20%

**Exams:** All forms of formal testing, other than skill performance exams.

Quizzes and final exam or modeling project presentation

Exams  
10 - 30%

**Other:** Includes any assessment tools that do not logically fit into the above categories.

Oral presentations and critiques
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Other Category 5 - 15%
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**Representative Textbooks and Materials:**

Autodesk Revit 2017 for Architecture: No Experience Required. Wing, Eric. Sybex. 2016  
Instructor prepared materials