

Introduction to Revit

schedule_ January 8-9, 2011 – 3:00pm-9:00pm

location_ Perloff Hall Computer Lab

instructor_ Ethan Marsh

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website_ www.emdsgn.com

software_ Autodesk Revit Architecture 2011

pamphlet url_ www.emdsgn.com/UCLA-UAD-RevitWorkshop-110108.pdf

introduction_

This workshop will provide students with the knowledge necessary to develop an intelligent Building Information Model (BIM) in the Revit software environment. Students will be instructed on the fundamental concepts and benefits of BIM and the role parametrics and information play in the design and documentation process. This course will leave students with the ability to develop a full BIM of a building, render it, and efficiently derive thoroughly coordinated drawing documentation & details from it.

Upon completion, students will be well prepared to utilize this technology for their academic endeavors, but perhaps more importantly, have a jump start on directly applying their academic skills & knowledge to the professional architecture environment.

course outline_

day.01_Intro to Revit

- 1. BIM Introduction**
 - 1.1. BIM: Changing the design paradigm
- 2. Revit Architecture Basics**
 - 2.1. Building Information Modeling
 - 2.2. Exploring the Interface
 - 2.3. Architectural Elements and Families
- 3. Views and Visibility**
 - 3.1. Project Browser
 - 3.2. Floor Plans and Ceiling Plans
 - 3.3. Sections and Elevations
 - 3.4. Callouts and Enlarged Plans
 - 3.5. Schedules
 - 3.6. View Properties
- 4. Using Modeling Tools**
 - 4.1. Levels and Grids
 - 4.2. Structural Columns
 - 4.3. Walls, Doors, and Windows

- 4.4. Curtain Walls
- 4.5. Floors, Ceilings, and Roofs
- 4.6. Stairs and Railings
- 4.7. Rooms
- 5. Working with Families**
 - 5.1. Loading into Projects
 - 5.2. Placing Components (furniture, fixtures, and equipment)
 - 5.3. Introduction to Creating Parametric Families
- 6. Basic Detailing and Annotation**
 - 6.1. Detail Lines and Detail Components
 - 6.2. Text and Dimensions
 - 6.3. Tags and Symbols
- 7. Views and Visibility**
 - 7.1. Advanced Organization and Structure
 - 7.2. Managing Views
 - 7.3. View Templates
 - 7.4. Graphic Overrides
- 8. Rendering**
 - 8.1. Introduction**
 - 8.2. Materials**
 - 8.2.1. Creating and Modifying
 - 8.2.2. Defining Custom Properties
 - 8.2.3. Decal and Paint Tools
 - 8.3. Lighting**
 - 8.3.1. Defining Properties
 - 8.3.2. Working with Lighting Families
 - 8.4. Render Settings**
 - 8.5. Walkthroughs**
 - 8.6. Saving Images**
- 9. Phasing**
 - 9.1. By Element
 - 9.2. By View
 - 9.3. Phase Filters
 - 9.4. Revisions
- 10. Sheets and Printing**
- 11. Design Options**
- 12. Model Sharing Tools**
 - 12.1. Worksets & worksharing

day.02_Modeling and Visualization

- 1. Advanced Modeling Techniques**
 - 1.1. Walls
 - 1.2. Host Sweeps
 - 1.3. Roofs and Soffits
 - 1.4. Model and Detail Groups
- 2. Conceptual Massing**
 - 2.1. Massing Studies and Preliminary Design
 - 2.2. Complex Forms

2.3. Surface Grids & Patterns

2.4. Workplanes

2.5. Building Maker Tools

3. Site Tools

3.1. Settings

3.2. Topography

3.3. Pads and Components

3.4. Linking Revit Models

4. Family Creation

4.1. Overview

4.1.1. Classes of Families

4.1.2. Model Performance

4.1.3. Family Templates

4.2. Laying the Foundation

4.2.1. Family Types

4.2.2. Reference Planes

4.2.3. Reference Lines

4.2.4. Controls

4.2.5. Constraints

4.3. Creating Geometry

4.3.1. Solid Forms

4.3.2. Void Forms

4.3.3. Model and Symbol Lines

4.3.4. Filled and Masking Regions

4.3.5. Nested Families

4.3.6. Text

4.4. Adding Intelligence

4.4.1. Parameters

4.4.2. Labels

4.4.3. Formulas

4.4.4. Visibility