

AUTODESK REVIT ARCHITECTURE



Autodesk Revit Architecture

The Autodesk® Revit® software is a powerful Building Information Modeling (BIM) program that works the way architects think. The program streamlines the design process through the use of a central 3D model, where changes made in one view update across all views and on the printable sheets.

This training guide is designed to teach you the Autodesk Revit functionality as you would work with it throughout the design process. You begin by learning about the user interface and basic drawing, editing, and viewing tools. Then you learn design development tools including how to model walls, doors, windows, floors, ceilings, stairs and more. Finally, you learn the processes that take the model into the construction and Documentation phase

Course Objective

The objective of the Autodesk Revit Architecture Essentials training guide is to enable students to create full 3D architectural project models and set them up in working drawings. This training guide focuses on basic tools that the majority of students need to work with the Autodesk Revit software.

Course Outline

1. Introduction

- a. About BIM
- b. Introduction to Autodesk Revit Architecture
- c. Revit File Types
- d. Exploring User Interface
- e. Building Elements
- f. Starting a New Project
- g. Drawing Plan as per Dimension
- h. Drawing Aids
- i. Project Units

2. Levels

- a. Adding Levels
- b. Modifying Levels
- c. Creating Level Head
- d. Constrain Levels
- e. Grids

3. Walls

- a. Create New Wall type, Location Line, Wall joins, Compound Wall
- b. More in Depth –Wall
- c. Modify walls
- d. Wall layer wrapping
- e. Stacked wall
- f. Vertically compound Wall

- g. Wall shapes and Openings
- h. Wall sweeps and Reveals

4. Construction Modeling Tools

- a. Parts
- b. Assemblies
- c. Modify Tools
- d. Move
- e. Copy
- f. Create Similar
- g. Rotate
- h. Mirror
- i. Array
- j. Scale
- k. Split Element
- l. Trim
- m. Align
- n. Offset
- o. Pin
- p. Unpin
- q. Doors
- r. Windows,
- s. Keyboard Shortcuts

5. Floor

- a. Adding Floor
- b. Sloped Floor
- c. Floor Slab Edge

6. Ceiling

- a. CreateCeiling
- b. Components
- c. Working with Modern Medium Library

7. Roof

- a. Creating Roof
- b. Modifying Roof
- c. Shape editing for Roofs and Floor
- d. Roof Soffit, Roof Fascia
- e. Roof Gutter
- f. Openings
- g. Opening onface and Vertical Opening
- h. Wall opening, Shaft opening
- i. Dormer Opening

8. Dimensions

- a. Temporary Dimensions
- b. Permanent Dimensions
- c. Modifying Dimensions
- d. Constraints

9. Managing Views

- a. Creating views
- b. Plan views
- c. View range

- d. Plan region
- e. Elevation
- f. Section,
- g. 3D Views, Lock
- h. 3D view
- i. Background
- j. Cropping View

10. Visibility or Graphics

- a. View Templates
- b. Duplicate Views,
- c. Visual Styles
- d. Filter
- e. Graphic Display Options

11. Curtain Wall

- a. Adding Curtain Grids
- b. Mullions
- c. Reshaping Curtain Wall Panels
- d. Adding Curtain Door to panel
- e. Embedded Walls

12. Stair

- a. Stair by component
- b. Creating stair by sketching
- c. Customizing stair documentation
- d. Stair calculator
- e. Modify stair railings
- f. Ramp
- g. Railings
- h. Add railings, Add railings by sketching, Modify railing, Modifying
- i. continuous rail

13. Conceptual Modeling

- a. Massing
- b. In place Mass
- c. Forms
- d. Modify Forms
- e. Rationalizing Surface
- f. Splitting Faces
- g. Paint Tool
- h. Placing Mass Instances from Mass Family
- i. Face based Modeling

14. Documentation

- a. Text
- b. Adding text notes
- c. Modify text notes
- d. Model text
- e. Tag
- f. Tag tools
- g. Applying tag by category
- h. Tag all not tagged
- i. Material Tag
- j. Keynote
- k. Types of Keynote
- l. Placing Keynotes

- m. Keynoting Settings
- n. Custom Keynotes
- o. Adding Keynote in 3D view

15. Callout Views

- a. Types of Callouts
- b. Detailing
- c. Drafting Views
- d. Creating drafting views
- e. Importing views from CAD program
- f. Reusing drafting view
- g. Inserting detail components
- h. Repeating detail

16. Schedules

- a. Creating Schedules/quantities
- b. Schedule properties
- c. Custom parameters
- d. Modify schedules
- e. Material take off schedules
- f. Annotation schedules or note blocks
- g. Creating annotation schedule
- h. Reusing schedule views

17. Rooms

- a. Creating rooms
- b. Room boundaries
- c. Room volume
- d. Room tag
- e. Situations that can effect Room volume computations
- f. Schedule Keys
- g. Area
- h. Area schemes
- i. Area types
- j. Area plans
- k. Area tags
- l. Color Scheme
- m. Legend

18. Sheets

- a. Title Blocks
- b. Creating title blocks
- c. Revision workflow
- d. Revision schedules on title block
- e. Modifying views on sheet
- f. Rotating views on sheet
- g. Dividing view across multiple sheets
- h. Sheet List
- i. Print

19. Lights

- a. Lighting fixtures
- b. Defining geometry of light source
- c. Controlling the brightness of light source
- d. Light groups

20. Materials

- a. Creating material library
- b. About the material properties and assets
- c. Editing material properties
- d. Editing assets
- e. Creating material
- f. Applying material to elements
- g. Changing the graphic properties of a material
- h. Changing the appearance properties of a material

21. Sun Settings

- a. Specifying sun settings
- b. Using sun path
- c. Rendering
- d. Decals
- e. Walkthrough
- f. Solar study
- g. Setting up and creating solar study

22. Site Design

- a. Site Settings
- b. Toposurface
- c. Creating toposurface
- d. Splitting a toposurface
- e. Merging toposurface
- f. Building pads
- g. Property lines
- h. Contour line labels
- i. Parking components
- j. Site components
- k. Graded region
- a. Practice: Hands On

23. Working with linked models

- a. Link Revit
- b. Visibility of linked models
- c. Manage links

24. Project base point and survey points

- a. Working with point clouds files
- b. Import/ Link CAD
- c. Manage links
- d. Opening IFC
- e. Export
- f. Exporting to CAD formats
- g. Exporting to DWG/DWF
- h. Exporting to DWF format
- i. Linking DWF Mark-ups
- j. Exporting o IFC
- k. Creating Room /Area Report

25. Phasing

- a. Phasing workflow
- b. Phase properties
- c. Demolish elements
- d. Transferring project standards

- e. Customizing project settings
- f. Fill patterns
- g. Line weights
- h. Line pattern and Line styles
- i. Purge unused objects
- j. Interference check
- k. Groups
- l. Create groups and Modify groups
- m. Saving groups
- n. Loading groups

26. Family Creation

- a. Reference planes, Reference lines
- b. Constraints and dimensions
- c. Working with adaptive components
- d. Adaptive components
- e. Curtain panel pattern 1
- f. Curtain panel pattern 2
- g. Curtain panel pattern 3
- h. Helix
- i. Working with Adaptive Components
- j. Grill design
- k. Railing on curved surface
- l. Doors and windows
- m. Balusters and railings
- n. Architectural Columns
- o. Mullion