



# Autodesk Revit: Fundamentals for Residential Design

## Course Length: 4 Days

This training course teaches residential home designers how to complete a home design project using Autodesk Revit. Users will create a full 3D residential project model, including walls, doors, windows, components, floors, ceilings, roofs, and stairs. This guide takes users through the design, development, and construction document phases, including how to navigate the user interface, use the basic drawing, editing, and viewing tools, and create the final construction documents.

This course is applicable for residential drafters, designers, and anyone in the residential architecture field. For instructional content focused on a commercial design project, consider the Autodesk Revit: Fundamentals for Architecture training course.

## Topics Covered:

- Understanding the purpose of BIM and how it is applied in Revit.
- Navigating the Revit workspace and interface.
- Working with the basic sketching and modifying tools.
- Setting up a residential house design project by linking CAD files.
- Creating levels, interior elevations, sections, and callouts.
- Modeling a 3D house with walls, floors, windows, doors, foundation, and footings.
- Creating ceiling soffits and raised ceilings.
- Adding architectural and structural columns, piers, pilasters, and augers.
- Adding component features, such as furniture, plumbing fixtures, casework, and kitchen and bathroom components.
- Applying finish carpentry, including baseboards.
- Adding soffits, fascia, gutters, frieze boards, and bird boxes.
- Modeling simple and complex roofs, including modifying roof joins and creating dormers in a house design project.

Course description shown for Autodesk Revit 2022. Topics, curriculum, and/or prerequisites may change depending on software version.

- Modeling residential stairs, balconies, and railings.
- Understanding the basics of design options by creating design option sets for a house design project.
- Setting up sheets for plotting with text, dimensions, details, tags, and schedules.
- Creating residential wall details in a house design project.

**Prerequisites:**

An understanding of architectural terminology is an asset.

**Learning Guide Contents****Chapter 1: Introduction to BIM and Autodesk Revit**

- 1.1 BIM and Revit
- 1.2 Overview of the Interface
- 1.3 Starting Projects
- 1.4 Viewing Commands

**Chapter 2: Basic Sketching and Modify Tools**

- 2.1 Using General Sketching Tools
- 2.2 Editing Elements
- 2.3 Working with Basic Modify Tools
- 2.4 Working with Additional Modify Tools

**Chapter 3: Starting Architectural Projects**

- 3.1 Setting Up Levels
- 3.2 Linking and Importing CAD Files

**Chapter 4: Modeling Walls**

- 4.1 Modeling Walls
- 4.2 Modifying Walls
- 4.3 Adding Finish Carpentry
- 4.4 Adding Room Elements

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## Chapter 5: Working with Doors and Windows

- 5.1 Inserting Doors and Windows
- 5.2 Loading Door and Window Types from the Library
- 5.3 Creating Additional Door and Window Sizes

## Chapter 6: Working with Views

- 6.1 Modifying the View Display
- 6.2 Duplicating Views
- 6.3 Creating Elevations and Sections
- 6.4 Adding Callout Views

## Chapter 7: Modeling Floors

- 7.1 Modeling Floors
- 7.2 Modeling Thickened Slab Edges
- 7.3 Adding Footings
- 7.4 Creating Columns, Piers, Pilasters, and Augers
- 7.5 Creating Sloped Floors

## Chapter 8: Modeling Ceilings

- 8.1 Modeling Ceilings
- 8.2 Adding Ceiling Fixtures
- 8.3 Creating Ceiling Soffits and Raised Ceilings

## Chapter 9: Modeling Roofs

- 9.1 Modeling Roofs
- 9.2 Creating Roofs by Footprint
- 9.3 Creating Roofs by Extrusion
- 9.4 Creating Dormers
- 9.5 Modify Roofs
- 9.6 Creating Fascias, Soffits, and Gutters

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## Chapter 10: Modeling Stairs and Railings

- 10.1 Creating Component Stairs
- 10.2 Modifying Component Stairs
- 10.3 Working with Railings

## Chapter 11: Adding Components

- 11.1 Adding Components
- 11.2 Modifying Components

## Chapter 12: Design Options

- 12.1 Using Design Options

## Chapter 13: Creating Construction Documents

- 13.1 Setting Up Sheets
- 13.2 Placing and Modifying Views on Sheets
- 13.3 Printing Sheets

## Chapter 14: Annotating Construction Documents

- 14.1 Working with Dimensions
- 14.2 Working with Text
- 14.3 Creating Legends

## Chapter 15: Adding Tags and Schedules

- 15.1 Adding Tags
- 15.2 Working with Schedules

## Chapter 16: Creating Details

- 16.1 Setting Up Detail Views
- 16.2 Adding Detail Components
- 16.3 Adding Detail Lines and Symbols
- 16.4 Annotating Details

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## Appendix A: Additional Tools for Design Development

- A.1 Creating Grids
- A.2 Adding Columns
- A.3 Creating Curtain Walls
- A.4 Adding Curtain Grids
- A.5 Working with Curtain Wall Panels
- A.6 Attaching Mullions to Curtain Grids
- A.7 Creating Curtain Wall Typs with Automatic Grids
- A.8 Selection Sets
- A.9 Enhancing Views
- A.10 Introduction to Revit Worksharing

## Appendix B: Additional Tools for Construction Documents

- B.1 Working with Guide Grids on Sheets
- B.2 Revising Tracking
- B.3 Creating Building Component Schedules
- B.4 Importing and Exporting Schedules
- B.5 Creating a Repeating Detail
- B.6 Keynoting and Keynote Legends

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