Autodesk Revit Architecture

Overview:

The Autodesk® Revit® software is a powerful Building Information Modelling (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 class 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 to the construction documentation phase.

Since building projects are extremely complex, the Autodesk Revit software is also complex. The objective of the Autodesk® Revit® 2018 Architecture: Fundamentals classes is to enable students to create full 3D architectural project models and set them up in working drawings. This student guide focuses on basic tools that the majority of users need.

Objective of the Course:

The Autodesk® Revit® software is a powerful Building Information Modelling (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 course 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 to the construction documentation phase.

Since building projects are extremely complex, the Autodesk Revit software is also complex. The objective of the Autodesk Revit Architecture Fundamentals training course is to enable students to create full 3D architectural project models and set them up in working drawings. This training course focuses on basic tools that the majority of users need.

Prerequisites: An understanding of architectural terminology is an asset

Who this course is for:

- Complete Beginners Training / Working Professional looking to upgrade skills in Revit.
- This Great Revit Course Is for The Students Who Wants to Become Revit Architecture Experts.
- Autodesk Software Users That Wants to Gain Knowledge and Skills In Revit Interface.
- We Recommend to Complete All 3 Revit Courses To Achieve Same Level Of The "Revit Architecture Certificate"

Why should you learn?

Revit software delivers tools that support architectural design, MEP engineering, structural engineering, and construction. Revit is specifically built for BIM to help you design, build, and maintain higher-quality, more energy-efficient buildings. Comprehensive features make it an ideal solution for the entire building project team.

By learning Revit, you as a design and construction professional, will be able to bring ideas from concept to construction with a coordinated and consistent model-based approach.

Learning Objectives:

- Analysis: Building element energy analysis; Enhanced structural analytical model; Duct and pipe calculations to API; Physical materials for performance analysis
- Collaboration: Work-sharing – multiple users save their work to a central file; collaboration on shared models across a WAN; work from remote locations using a local server.
- Design: More easily model, edit, and document designs of stairs and railings; parametric components - graphical system for design, form making; HVAC/electrical design room colour-fill plans and communication of design intent, visually.
- Visualization for creating displaced building design views; improvement of performance for visualization; capturing of design ideas in a photorealistic state, and reduction of project cost with cloud-based rendering.

Learning Outcome:

- You will know how to develop higher-quality, more accurate architectural designs; use tools specifically built to support Building Information Modelling workflows.
- You will know how to capture and analyse concepts, and maintain your vision through design, documentation, and construction.
- You will know how to do building element energy analysis; use the API to perform pipe/duct calculations; perform static analysis from the cloud; create/manage the structural analytical model; automatically update your model with analysis results; and improve BIM-based building performance workflows.
- You will know how to scan Revit model for collisions between elements; work with multiple users and save their work to a central file; collaborate on shared models across a WAN; streamline data management; and work from remote locations using a local server.
- You will know how to dock dialogs in a single window; more easily model, edit, and document designs; place air terminal devices on duct faces; restrict angles for pipe, duct, and cable tray; cap open ends of pipe or duct content quickly; rebar placement constraints customization; gain control over rebar placement; and get more rebar options when modelling.
- You will learn to crop non-rectangular model areas faster; easily manage elevation cut-line configuration; automatically display dimension values; annotate multiple elements with a single tag; define geometry and position for beams and braces; get greater control of schedule formatting; derive construction insight from design models; calculate/track detailed material quantities, display totals in current or load values, and create details from views of a 3D model.

Topics Covered:

1. Understanding the purpose of Building Information Management (BIM) and how it is applied in the Autodesk Revit software.
2. Navigating the Autodesk Revit workspace and interface.
3. Working with the basic drawing and editing tools.
4. Creating Levels and Grids as datum elements for the model.
5. Creating a 3D building model with walls, curtain walls, windows, and doors.

6. Adding floors, ceilings, and roofs to the building model.
7. Creating component-based and custom stairs.
8. Adding component features, such as furniture and equipment.
9. Setting up sheets for plotting with text, dimensions, details, tags, and schedules.

Course Outline:

Chapter 1: Introduction to BIM and Autodesk Revit (1 hour)

1.1 BIM and Autodesk Revit

1.2 Overview of the Interface

1.3 Starting Projects

1.4 Viewing Commands

Practice 1a Open and Review a Project

Chapter 2: Basic Sketching and Modify Tools (1 hour)

2.1 Using General Sketching Tools

2.2 Editing Elements

Practice 2a Sketch and Edit Elements

2.3 Working with Basic Modify Tools

Practice 2b Work with Basic Modify Tools

2.4 Working with Additional Modify Tools

Practice 2c Work with Additional Modify Tools

Chapter 3: Setting Up Levels and Grids (2 hours)

3.1 Setting Up Levels

Practice 3a Set Up Levels

3.2 Creating Structural Grids

3.3 Adding Columns

3.4 Linking and Importing CAD Files

Practice 3b Add Structural Grids and Columns

Chapter 4: Modelling Walls (2 hours)

4.1 Modelling Walls

4.2 Modifying Walls

Practice 4a Model the Exterior Shell

Practice 4b Add Interior Walls

Chapter 5: Working with Doors and Windows (2 hours)

5.1 Inserting Doors and Windows

Practice 5a Insert Doors and Windows

5.2 Loading Door and Window Types from the Library

5.3 Creating Additional Door and Window Sizes

Practice 5b Load and Create Door Types

Chapter 6: Working with Curtain Walls (2 hours)

6.1 Creating Curtain Walls

6.2 Adding Curtain Grids

Practice 6a Work with Curtain Walls

6.3 Working with Curtain Wall Panels

6.4 Attaching Mullions to Curtain Grids

Practice 6b Add Mullions and Panels to Curtain Walls

Chapter 7: Working with Views (2 hours)

7.1 Setting the View Display

7.2 Duplicating Views

Practice 7a Duplicate Views and Set the View Display

7.3 Adding Callout Views

Practice 7b Add Callout Views

7.4 Creating Elevations and Sections

Practice 7c Create Elevations and Sections

Chapter 8: Adding Components (2 hours)

8.1 Adding Components

8.2 Modifying Components

Practice 8a Add Components

Chapter 9: Modelling Floors (2 hours)

9.1 Modelling Floors

Practice 9a Model Floors

9.2 Creating Shaft Openings

9.3 Creating Sloped Floors

Practice 9b Create Shaft Openings and Sloped Floors

Chapter 10: Modelling Ceilings (2 hours)

10.1 Modelling Ceilings

10.2 Adding Ceiling Fixtures

Practice 10a Model Ceilings and Add Ceiling Fixtures

10.3 Creating Ceiling Soffits

Chapter 11: Modelling Roofs (2 hours)

11.1 Modelling Roofs

11.2 Creating Roofs by Footprint

Practice 11a Create Roofs by Footprint

11.3 Establishing Work Planes

11.4 Creating Roofs by Extrusion

Practice 11b Create Roofs by Extrusion

Chapter 12: Modelling Stairs, Railings, and Ramps (2 hours)

12.1 Creating Component Stairs

12.2 Modifying Component Stairs

Practice 12a Create Component Stairs

12.3 Working with Railings

Practice 12b Modify and Add Railings

12.4 Creating Ramps

Practice 12c Create Ramps

Chapter 13: Creating Construction Documents (2 hours)

13.1 Setting Up Sheets

13.2 Placing and Modifying Views on Sheets

Practice 13a Create Construction Documents

13.3 Printing Sheets

Chapter 14: Annotating Construction Documents (2 hours)

14.1 Working with Dimensions Modifying Dimensions

Practice 14a Work with Dimensions

14.2 Working With Text

14.3 Adding Detail Lines and Symbols

Practice 14b Annotate Construction Documents

14.4 Creating Legends

Practice 14c Create Legends

Chapter 15: Adding Tags and Schedules (2 hours)

15.1 Adding Tags

Practice 15a Add Tags

15.2 Adding Rooms and Room Tags

Practice 15b Add Rooms and Room Tags

15.3 Working with Schedules

Practice 15c Work with Schedules

Chapter 16: Creating Details (2 hours)

16.1 Setting Up Detail Views

16.2 Adding Detail Components

16.3 Annotating Details

Practice 16a Create a Detail Based on a Section Callout

Practice 16b Create a Detail in a Detail View

16.4 Keynoting and Keynote Legends

Practice 16c Create an Additional Detail

Practice 16d Create a Detail Based on a CAD File