

Autodesk Revit Fundamentals for MEP Training

Course Length: 4 days

To take full advantage of Building Information Modelling, the Autodesk Revit Fundamentals for MEP course has been designed to teach the concepts and principles of creating 3D parametric models of MEP system from engineering design through construction documentation.

This course is intended to introduce users to the software's user interface and the basic HVAC, electrical, and piping/plumbing components that make the Autodesk Revit software a powerful and flexible engineering modelling tool. The course will also familiarize users with the tools required to create, document, and print the parametric model. The examples and practices are designed to take the users through the basics of a full MEP project from linking in an architectural model to construction documents.

Topics Covered

- Working with the Autodesk Revit software's basic viewing, drawing, and editing commands.
- Inserting and connecting MEP components and using the System Browser.
- Working with linked Revit files and CAD files.
- Creating spaces and zones so that you can analyse heating and cooling loads.
- Creating HVAC networks with air terminals, mechanical equipment, ducts, and pipes.
- Creating plumbing networks with plumbing fixtures and pipes.
- Creating electrical circuits with electrical equipment, devices, and lighting fixtures and adding cable trays and conduits.
- Creating HVAC and plumbing systems with automatic duct and piping layouts.
- Testing duct, piping and electrical systems.
- Creating and annotating construction documents.
- Adding tags and creating schedules.
- Detailing in the Autodesk Revit software.

Prerequisites

This course introduces the fundamental skills you need to learn the Autodesk Revit MEP software. It is highly recommended that you have experience and knowledge in MEP engineering and its terminology.

Training Guide Contents

Chapter 1: Introduction to BIM and Autodesk Revit

- 1.1 BIM and Autodesk 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 Inserting Components
- 2.3 Selecting and Editing Elements
- 2.4 Working with Basic Modify Tools
- 2.5 Working with Additional Modify Tools

Chapter 3: Starting Systems Projects

- 3.1 Linking and Importing CAD Files
- 3.2 Linking in Revit Models
- 3.3 Setting Up Levels
- 3.4 Copying and Monitoring Elements
- 3.5 Coordinating Linked Models
- 3.6 Batch Copying Fixtures

Chapter 4: Working with Views

- 4.1 Modifying the View Display
- 4.2 Duplicating Views
- 4.3 Adding Callout Views
- 4.4 Creating Elevations and Sections

Chapter 5: Setting Up Spaces

- 5.1 Preparing a Model for Spaces
- 5.2 Adding Spaces
- 5.3 Working with Spaces

Chapter 6: Heating and Cooling Loads Analysis

- 6.1 Creating Zones
- 6.2 Applying Colour Schemes
- 6.3 Analysing the Heating and Cooling Loads

Chapter 7: Basic Systems Tools

- 7.1 Connecting Components
- 7.2 Creating Systems - Overview

Chapter 8: HVAC Networks

- 8.1 Adding Mechanical Equipment and Air Terminals
- 8.2 Adding Ducts and Pipes
- 8.3 Modifying Ducts and Pipes

Chapter 9: Plumbing Networks

- 9.1 Adding Plumbing Fixtures and Equipment
- 9.2 Adding Plumbing Pipes
- 9.3 Modifying Plumbing Pipes
- 9.4 Adding Fire Protection Networks

Chapter 10: Advanced Systems for HVAC and Plumbing

- 10.1 Creating and Modifying Systems
- 10.2 Creating Automatic Layouts
- 10.3 Testing Systems

Chapter 11: Electrical Systems

- 11.1 About Electrical Systems
- 11.2 Placing Electrical Components
- 11.3 Creating Electrical Circuits
- 11.4 Setting up Panel Schedules
- 11.5 Adding Cable Trays and Conduit
- 11.6 Testing Electrical Layouts

Chapter 12: Creating Construction Documents

- 12.1 Setting Up Sheets
- 12.2 Placing and Modifying Views on Sheets ✦ 12.3 Printing Sheets

Chapter 13: Annotating Construction Documents

- 13.1 Working with Dimensions
- 13.2 Working With Text
- 13.3 Adding Detail Lines and Symbols
- 13.4 Creating Legends

Chapter 14: Adding Tags and Schedules

- 14.1 Adding Tags
- 14.2 Working with Schedules

Chapter 15: Creating Details

- 15.1 Setting Up Detail Views

- 15.2 Adding Detail Components
- 15.3 Annotating Details

Appendix A: Introduction to Worksets

- A.1 Introduction to Worksets

Appendix B: Additional Tools

- B.1 Building Type Settings
- B.2 Defining Colour Schemes
- B.3 Custom Duct and Piping Types
- B.4 Work with System Graphics
- B.5 Pressure Loss Reports
- B.6 Guide Grids and Sheets
- B.7 Revision Tracking
- B.8 Annotating Dependent Views
- B.9 Importing and Exporting Schedules
- B.10 Creating Building Component Schedules
- B.11 Keynoting and Keynote Legends

Appendix C: Autodesk Revit Certified Professional Exam for Mechanical Building Systems

Appendix D: Autodesk Revit Certified Professional Exam for Electrical Building Systems