

Autodesk Revit MEP Basics

Target Audience

This course is designed for MEP engineers, designers, and technicians who are new to Revit MEP and wish to develop practical skills in modeling mechanical, electrical, and plumbing systems within a BIM environment. It is also suitable for architecture and construction professionals who want to understand MEP coordination within Autodesk Revit.

Course Objective

The objective of this course is to equip participants with foundational knowledge and hands-on skills in Autodesk Revit MEP. Participants will learn to set up MEP projects, model HVAC, electrical, and plumbing systems, work with MEP families and components, coordinate systems across disciplines, produce documentation, and extract quantities — all within the Revit BIM platform.

Course Outcome

Upon successful completion of **40-hours** course, participants will be able to:

1. Set up and configure a complete MEP project in Revit using appropriate templates and project settings
2. Model HVAC duct systems, place air terminals, and connect mechanical equipment
3. Create electrical systems including lighting fixtures, circuits, and panel schedules
4. Design plumbing pipe systems, place fixtures, and manage flow direction and slope
5. Load, modify, and customize MEP families and component parameters
6. Coordinate MEP systems with architectural and structural models and identify clash issues
7. Produce annotated MEP drawings, plan sheets, and sections for documentation
8. Generate MEP schedules, extract material quantities, and export data to Excel

Chapter 1: Introduction to Revit MEP

- What is Revit MEP?



- Overview of MEP (Mechanical, Electrical, Plumbing)
- Role of MEP in BIM Projects
- Revit Interface for MEP
- Difference between Architecture, Structure & MEP in Revit

Chapter 2: Project Setup for MEP

- Starting a New MEP Project
- Using MEP Templates
- Setting Units and Project Settings
- Linking Architectural & Structural Models
- Coordination Basics with Linked Models

Chapter 3: Mechanical Systems (HVAC Basics)

- Introduction to HVAC in Revit
- Creating Duct Systems
- Placing Air Terminals (diffusers, grills)
- Adding Mechanical Equipment (AHU, FCU)
- Duct Routing and Layout Tools
- Basic System Connections

Chapter 4: Electrical Systems Basics

- Introduction to Electrical Modeling
- Placing Lighting Fixtures
- Adding Switches and Electrical Devices
- Creating Power Circuits
- Panel Schedules Basics



- Wiring and Connections Overview

Chapter 5: Plumbing Systems Basics

- Introduction to Plumbing in Revit
- Creating Pipe Systems
- Placing Plumbing Fixtures (sinks, toilets)
- Pipe Routing and Slope Basics
- Connecting Fixtures to Systems
- Understanding Flow Direction

Chapter 6: Families and Components (MEP)

- Using Loadable MEP Families
- Understanding Connectors (Mechanical, Electrical, Plumbing)
- Modifying Family Parameters
- Basic Customization of MEP Components

Chapter 7: System Coordination

- Understanding System Browser
- Checking System Connectivity
- Clash Awareness (Basic Level)
- Coordination with Architecture & Structure
- Identifying Modeling Errors

Chapter 8: Views, Annotation & Documentation

- Creating MEP Plans
- Sections and 3D Views for Systems



- Tagging MEP Elements
- Adding Dimensions and Notes
- Creating Sheets for MEP Drawings

Chapter 9: Schedules and Quantity Takeoff

9. Creating MEP Schedules
10. Extracting Quantities (Ducts, Pipes, Fixtures)
11. Filtering and Sorting Data
12. Exporting Data to Excel

