



REVIT MEP ESSENTIAL TRAINING

Objectives

After completing this guide, you will be able to:

- ✓ Describe building information modeling methodology.
- ✓ Use the different parts of the Revit MEP user interface and work with different types of Revit elements and families.
- ✓ Manage the different views and change their properties, control the visibility and appearance of elements in different views, and work with section, elevation, and 3D views.
- ✓ Set up a project using different templates, link Revit models, share projects using worksheets, define discipline settings, and import and edit DWG details.
- ✓ Create spaces and zones in a Revit model.
- ✓ Analyze an analytical model for conducting a building performance analysis, Define heating and cooling loads information, and calculate heating and cooling loads.
- ✓ Create HVAC systems, generate HVAC system layouts, and create and modify ductwork using Revit tools.
- ✓ Layout and create system piping.
- ✓ Create plumbing systems.
- ✓ Create fire protection systems.
- ✓ Create electrical circuits and wiring
- ✓ Monitor changes in files of other disciplines linked to Revit MEP and check and fix interference
- ✓ Conditions.
- ✓ Work with callout, detail, and drafting views.
- ✓ Work with text and tags, dimensions, legends, and schedules.
- ✓ Add titleblocks to a sheet, update the project information in a titleblock, and work with sheets.
- ✓ Create and modify simple families.

Pre-requisites

This guide is designed for new users of Revit® MEP.

It is recommended that you have a working knowledge of:

- Basic MEP engineering and design skills.
- Microsoft® Windows® 7, Microsoft® Windows® 8 or Microsoft® Windows® 10.

Chapter 1: Building Information Modeling

- Lesson: Building Information Modeling
- For MEP Engineering
- About Building Information Modeling
- About Bidirectional Associativity

Chapter 2: Revit MEP Basics

- The Revit MEP User Interface
- The Ribbon Framework Interface
- Guidelines for Using the User Interface
- About Building Elements
- About Families Elements and Families
- Guidelines for Working with Revit Elements And Families

Chapter 3: Viewing the Model

- About Views Lesson: Managing Views
- Creating Views and Adding Matchlines
- View Properties
- View Templates
- Guidelines for Working with Views and View Templates
- Object Visibility Settings
- Modifying Line Styles
- About User-Defined Filters
- Creating Filters
- Guidelines for Controlling Object Visibility
- About Section Views
- About Elevation Views
- Guidelines for Creating Section and Elevation views
- About 3D Views
- About Cameras
- Creating and Modifying Camera Views
- Guidelines for Creating and Modifying 3D Views

Chapter 4: Starting a New Project

- About Projects
- Project Settings
- About Project Templates
- About the Mechanical-Default Project
- Template About Revit File Types
- Creating Project Templates
- Guidelines for Creating Project Template Files
- Defining Discipline Settings
- About Mechanical Settings
- About Electrical Settings
- Guidelines for Defining Discipline Settings
- Options for Importing and Editing DWG Details
- Guidelines for Importing and Editing DWG
- Details Exercise: Import and Edit DWG Details

Chapter 5: Defining Volumes

- About Spaces
- Process of Creating Spaces
- Guidelines for Creating Spaces
- About Zones
- Process of Creating Zones
- Guidelines for Creating Zones

Chapter 6: Building Performance Analysis

- About Analytical Models
- Process of Viewing Analytical Models Analysis
- Guidelines for Viewing Analytical Models
- Heating and Cooling Loads Information
- Process of Specifying Project Energy Data
- Process of Specifying Space Heating and Cooling Loads
- Parameters
- Process of Specifying Zone Heating and Cooling Loads
- Parameters
- Process of Exporting Defined Energy Data to a gbXML
- Guidelines for Defining Heating and Cooling Loads
- About Heating and Cooling Loads
- Heating and Cooling Loads Report
- Process of Calculating Heating and Cooling Loads
- Guidelines for Calculating Heating and Cooling Loads

Chapter 7: HVAC Systems

- About HVAC Systems
- Mechanical Parts in HVAC Systems
- Process of Creating HVAC Systems
- Guidelines for Creating HVAC Systems
- About Layouts
- Duct Sizing
- Duct System Inspection Tools
- Process of Generating HVAC System Layouts
- Guidelines for Generating HVAC System Layouts
- Ducts and Duct Fittings
- Duct and Duct Fitting Control Grips
- Tools for Creating and Modifying Ductwork
- Process of Applying Duct Color Fills
- Guidelines for creating and Modifying Ductwork

Chapter 8: Piping Systems

- About System Piping
- Process of Creating a Piping System
- Guidelines for Creating a Piping System
- About Plumbing Systems
- Process of Creating a Plumbing System
- Guidelines for Creating a Plumbing System
- Lesson: Creating Fire Protection Systems
- About Fire Protection Systems
- Process of Creating a Fire Protection System

Chapter 9: Electrical Systems

- About Electrical Circuits
- Tools for Working with Electrical Circuits
- Process of Creating Electrical Circuits
- Guidelines for Creating Electrical Circuits
- About Electrical Wiring
- Process of Creating a Wire Type
- Guidelines for Creating Wiring
- Exercise: Create Wiring

Chapter 10: Working with Architects and Engineers

- About Project Sharing
- Copy and Monitor Tools
- Coordinating and Monitoring Changes in the Current Project
- Coordination Review Tool
- Guidelines for Monitoring Changes in Linked Files
- About Interference Checks
- Guidelines for Checking and Fixing Interference Conditions

Chapter 11: Annotations and Schedules

- About Text
- About Tags
- Guidelines for Working with Text and Tags
- About Temporary Dimensions
- About Permanent Dimensions
- Guidelines for Working with Dimensions
- About Legends
- Guidelines for Creating Legends
- About Schedules
- About Schedule Properties
- Exporting Schedules
- Modifying Schedule Fields
- Guidelines for Working with Schedules

Chapter 12: The Family Editor

- About Families
- Connectors
- Process of Creating Families
- Guidelines for Creating and Modifying Families