

COURSE DESCRIPTION

To take full advantage of Building Information Modeling, the Autodesk® Revit® MEP Essentials training course has been designed to teach the concepts and principles of creating 3D parametric models of MEP system from engineering design through construction documentation. The training course is intended to introduce students to the software's user interface and the basic HVAC, electrical, and piping/plumbing components that make Revit MEP a powerful and flexible engineering modeling tool. The objective is to familiarize students with the tools necessary to create, document, and print the parametric model. The examples and practices are designed to take you through the basics of a full Revit MEP project, from linking in an architectural model to construction documents.

This course is designed for new users of Revit MEP.

TRAINING OBJECTIVES

The primary objective of this course is to teach students the concept of building information modeling and introduce the tools for parametric engineering design and documentation using Revit MEP. After completing this course, students will be able to:

- Understand Autodesk® Revit® MEP, its interface, including viewing, drawing, and editing commands
- Work with linked architectural files
- Create and modify views
- Understand Revit MEP systems in general
- Create spaces and zones.
- Analyze heating and cooling loads
- Work with HVAC module to add air terminals, mechanical equipment, and create HVAC systems
- Work with the Piping module to add mechanical equipment as well as creating hydronic piping systems
- Work with fire protection systems

- Work with fixtures, piping systems and analysis tools in the Plumbing module
- Work with components, circuits, cable tray, and conduits in the Electrical module
- Create and annotate construction documents
- Add tags and create schedules

COURSE OUTLINE

DAY 1

Introduction to Autodesk Revit MEP

- Building Information Modeling (BIM) with Revit MEP
- Overview of the Revit MEP Interface
- Opening a Revit MEP Project
- Viewing Commands

Basic Drawing and Editing Tools

- General Drawing Tools
- Editing Revit Elements
- Basic Modifying Tools
- Additional Editing Tools
- Starting Revit MEP Projects

Starting Revit Projects

- Linking Revit Models
- Copying and Monitoring Linked Files
- Setting up Levels

Views

- Duplicating Views
- Adding Callout Views
- Setting the View Display
- Creating Elevations
- Creating Sections
- Working With Ceilings

Autodesk Revit MEP Systems

- About Revit MEP Systems
- Working with Components
- Creating Systems – Overview
- System Graphics
- Connecting Components
- Analyzing Systems

Note: The suggested course duration is a guideline. Course topics and duration may be modified by the instructor based upon the knowledge and skill level of the course participants.



Spaces and Zones

- Creating Spaces
- Creating Zones
- Creating Color Schemes

Performance Analysis

- Introduction to Energy Analysis
- Preparing Energy Analysis
- Analyzing the Heating and Cooling Loads
- Exporting for Secondary Analysis

DAY 2

HVAC Systems

- About HVAC Systems
- Adding Air Terminals and Mechanical Equipment
- Adding Ductwork
- Creating Duct Systems
- Automatic Ductwork Layouts

Hydronic Piping Systems

- About Hydronic Piping Systems
- Adding Mechanical Equipment
- Drawing Piping
- Creating Hydronic Systems
- Automatic Piping Layouts
- Fire Protection Systems

Plumbing Systems

- About Plumbing Systems
- Adding Plumbing Fixtures
- Drawing Piping for Plumbing Systems
- Working with Plumbing Systems

DAY 3

Electrical Systems

- About Electrical Systems
- Placing Electrical Components
- Creating Electrical Circuits
- Cable Trays and Conduit
- Electrical Panel Schedules

Construction Documents

- Setting up Sheets
- Placing and Modifying Views on Sheets
- Printing Sheets

Annotating Construction Documents

- Working with Dimensions
- Working with Text
- Adding Detail Lines and Symbols
- Creating Legends

Tags and Schedules

- Adding Tags
- Working with Schedules
- Creating Schedules

Detailing in Revit MEP

- Setting Up Detail Views
- Creating Details
- Annotating Details
- Patterning