

Training Course Outline

REVIT MEP ESSENTIAL

TRAINING COURSE OUTLINE

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ESSENTIAL



COURSE DESCRIPTION

The Revit MEP Essentials training course is designed to teach you the Revit functionality as you would work with it in the design process. Begin by learning about the user interface and the Revit commands for design development, followed by those available for construction documentation. Since building projects themselves tend to be extremely complex, Revit Architecture is a necessarily a complex program. The objective of the Revit MEP Essentials training course is to enable students to create full 3D project models and set them up in working drawings. This training course focuses on basic tools that the majority of users need to work with Revit software.



TARGET GROUP

The course aim to user who are currently or planning to work with Architectural , MEP engineers,structural engineers, and Construction Developer Industry.



COURSE DURATION

Full Time: 3 Days (10.30am-5.30pm)



LEARNING OUTCOME

By the end of the course, participants should 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 worksets, define discipline settings, and import and edit DWG details.
- Create spaces and zones in a Revitmodel.
- 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, fire protection systems, electrical circuits andwiring.
- 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.

CAREER PATH

3D Modeller, BIM Technician, 3D Visualizer, Project Technical Draughtperson, 3D CAD Draughtperson, 3D CAD Designer

COURSE 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® 2000, Microsoft® Windows® XP, or Microsoft® Windows® Vista.

MTTC Certificate of Completion will be issued to participants with full attendance record upon completion of training.

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COURSE CONTENT



DAY 1

Revit in a Nutshell

- Interactive exercise on creating and documenting a basic building

Introduction to the Principles of BIM

- Simple Truths
- Behind the hype
- The benefits of BIM
- What will BIM deliver

UI Tour, Project Navigation and View Creation

- Introducing the menu and screen layout
- Interrogating the model to extract views
- Placement and properties of grids and levels
- Introduction to basic Revit elements

Creating a Building

- Working with Compound Walls
- Working with Interior Walls
- Working with Vertically Compound Walls
- Working with Doors & Windows

Element Selection and Manipulation

- Object selection and methods
- Element properties
- Instance and type parameters
- Nodes and snaps

Visibility Control and Categorisation

- Project-wide settings
- View specific overrides
- Elements specific overrides
- Individual line overrides
- Exercise on modifying element visibility

Model Development Methodology

- Rationalised model construction
- Graded component libraries
- Data-rich/graphics light
- Controlling 3D geometry and 2D linework

DAY 2

Introduction to Building Elements

- Basic wall definitions, floors, roofs, and ceilings
- Sketching rules
- Relating slabs to walls and supports
- Slab slopes, roof design and ceiling definition
- System family editing
- Column and beam placement

Equipment, Fixtures and Fittings

- Family terminology
- Component placement
- Selecting the correct level
- MEP workflow

Introducing Systems

- Setting up the project profile
- Main systems
- System browser, connectors and other air systems

Basic Schedules and Legends

- Interactive session on the generation of tabular interrogations of the model

Geometry Formation and In-Place Families

- Interactive session on the creation and manipulation of basic solid and void forms

Mechanical Systems

- Mechanical settings
- Duct types and fittings
- Creating duct and piping systems
- Insulating and lining ductwork
- Plant and equipment
- Mechanical pipework, flanges and fittings

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COURSE CONTENT



DAY 3

Electrical Systems and Circuits

- Equipment, devices and fixtures
- Wiring, cable tray and conduit modelling
- Circuits and switch systems

Plumbing Systems

- Plumbing settings
- Plumbing fixtures
- Creating plumbing systems
- Creating sanitary systems
- Domestic hot and cold water systems
- System browser

Rooms, Areas, Spaces, and Volumes

- Room definition and bounding elements
- Space type settings and computation for areas and volumes
- Zones and control systems
- Room and space calculations, scheduling and use of the data

2D Draughting and Annotation

- Introducing annotation tools and components categories
- Details components libraries
- Repeating details
- Lines and arcs
- Text, Tags and Keynotes

Sheet Compilation and Publication

- Project browser organisation-WIP and Publish
- Creating and populating sheets
- Working and schedules
- Publishing and document management

Basic Subdivision and Collaboration

- Introducing a BIM Strategy document
- Model management
- Project team collaboration techniques
- Transmittal and model issue protocols
- Basics of large model sub-division

Introduction to the Principles of Family Editing

- The basic process
- 10 stages for trouble free family creation