# RME - Revit MEP Essential 2018

Training Course Outline

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## 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

## CAREER PATH

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

## LEARNING OBJECTIVES

After completing this course, 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 worksets, 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.
- ✓ Lay out and create system piping.
- ✓ Create plumbing systems, fire protection systems, 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.

## COURSE PREREQUISITES

- 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.

## CERTIFICATE

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

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## 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

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
- Element 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

Establishing a Project
- Project units - Common, HVAC, Electrical and Piping
- MEP settings, symbols and schematic design
- Project commencement and collaboration
- Linking CAD and Revit Architecture
- Coordination review

## 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
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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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## 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 component categories
- Details component 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