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Course: Autodesk Revit MEP

Course Description

This course has been designed to help aspirants understand the concepts and principles of 3D parametric models of MEP system, created from engineering design through construction documentation. The aspirants will be introduced to the user interface and the basic HVAC, electrical, and piping/plumbing components that make Revit MEP a powerful and flexible engineering modeling tool.

Class and Lab hours:

60 (35 Theory, 25 Lab)

Prerequisite:

Need to be an architect/ engineer (civil, mechanical, or electrical) with basic knowledge of MEP works.

Course Objectives

Upon completion of the course, trainees/students will be able to:

- *Create 2D and 3D models*
- *Understand load analysis*
- *Understand MEP services*
- *Understand other advanced tools*

This class focuses on the core concepts and available tools that the majority of users will need to work with Revit MEP.

Major Instructional Areas:

- *Basics of Autodesk Revit MEP*
- *Working with Views and Schedules*
- *Work with different building MEP services*
- *Performing load analysis*
- *Creating construction documents*

Detailed Course Outline

Unit Heading	*Unit Outcomes*	*Unit Topics*
1. Introduction to Revit MEP	• *The basics of Revit MEP* • *Revit MEP interface*	• *Introducing Revit MEP* • *Understanding the Basic Concepts and Principles* • *Opening the Interface* • *Using the Shortcut Keys* • *Interoperability of Revit MEP* • *Setting the Configuration and Preferences*
2. Starting with Revit MEP	• *Introduction to Revit MEP* • *Other Display Settings*	• *Starting a Project* • *Setting Units* • *Configuring other Global Settings* • *Using Model Display Tools* • *Saving a Project* • *Closing a Project*
3. Creating Building Envelope	• *Work with walls and doors* • *Work with Floors* • *Work with levels, grids and work planes* • *Work with Project Views*	• *Understanding Walls and its Types* • *Adding Wall Sweep and Wall Reveal* • *Adding Door & Window* • *Understanding Door & Window Properties* • *Openings in Wall* • *Working with Levels* • *Understanding Level Properties* • *Working with Grids* • *Understanding Grid Properties* • *Working with Reference Planes* • *Setting a Work Plane* • *Working with Project Views* • *Introduction to Architectural Floors* • *Creating Roof using Roof Tool* • *Sketching a Ceiling* • *Adding Rooms* • *Adding Components* • *Using Curtain System in a Project*
4. Editing Tools	• *Cutting, Pasting, Moving, and copying elements* • *To work with other related Editing tools*	• *Creating a Selection Set* • *Moving and Copying Elements* • *Trimming and Extending Elements* • *Cutting and Pasting Elements* • *Rotating, Mirroring, Matching, Aligning, Deleting, and Splitting Elements* • *Pinning and Unpinning Elements* • *Creating Group of Elements*

5. Creating Spaces and Zones and Performing Load Analysis	• *Work with space modeling* • *Create zones*	• *Space Modeling for Building Analysis* • *Adding Color Schemes and Color Legends* • *Creating Zones from Spaces*
6. Creating an HVAC System	• *Work with the HVAC* • *Create Ducts*	• *Introduction to an HVAC System* • *Adding Air Equipment(s)* • *Inspecting the Duct System* • *Creating Duct Legend* • *Generating HVAC Layouts*
7. Creating an Electrical System	• *Introduction to Electrical System* • *Work with Light Fixtures* • *Work with Electrical Settings* • *Perform Lighting Analysis*	• *Adding Electrical Fixtures* • *Adding Power and System Devices* • *Adding Lighting Fixtures* • *Specifying the Electrical Settings* • *Creating Power Distribution System* • *Creating Circuits*
8. Creating Plumbing System	• *Work with plumbing system*	• *Creating a Plumbing System* • *Specifying the Pipe Settings* • *Placing Fittings* • *Placing Pipe Accessories*
9. Creating Fire Protection System	• *Work with Fire System*	• *Fire Protection System* • *Creating Space Schedule* • *Connecting the Sprinkler*

Evaluation:

There will be one exam that every trainee/student must pass with at least 75% or more to get a certificate of completion from BIMNCAD.

Suggested Learning Approach

In this course, you will study individually or within a group of your peers. As you work on the course deliverables, you are encouraged to share ideas with your peers and instructor, work collaboratively on projects and team assignments, raise critical questions, and provide constructive feedback.