Autodesk REVIT (MEP)
Course details

AUTODESK
Revit

Course Description:

Revit MEP software is a Building Information Modeling (BIM) solution for mechanical, electrical, and plumbing engineers. It provides an integrated design, analysis, and documentation tool to support building systems projects from concept through construction.

Objectives:

Trainees will learn the recommended workflows and basic skills required to navigate Revit MEP and use its tools to create and modify mechanical, piping and plumbing systems.
Upon completion of the course, the student will be able to:

- Set up a project; produce a building information model of a commercial design for mechanical and plumbing systems.
- Extract 2Ddrawings for construction documents.
- Use the work sharing features to collaborate with multiple users on a single project.
- Document a project with all necessary floor plans, ceiling plans, sections, details, sheets, annotations, general notes and keynotes.

Course textbooks and other reading materials:

We recommend the following resources:
- Mastering Autodesk Revit MEP
- Autodesk Revit MEP Essentials

Web Resources:

- http://www.autodesk.com/products/autodesk-revit-family/overview
- http://seek.autodesk.com
- http://help.autodesk.com/view/RVT/2023/ENU

Prerequisites:

- Basic knowledge and skills about using computers
- Mechanical Engineering background is recommended

Grading:

Attendance   40%
Assignments   60% (Workshops & Projects)
To pass the course and receive both Autodesk & CAD MASTERS certificate you should:
- Attend at least 80% of course hours
- Score more than 70% as a total score + Technical evaluation by the instructor

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Course Outline:
This course including the following:

Getting started with MEP projects:
- Creating Project
- Linking Revit Links
- Modifying visibility of the Revit link
- Understanding work sharing concepts (Extracted from the Advanced Level)
- Preparing central file (Extracted from the Advanced Level)
- Preparing the local file (s). (Extracted from the Advanced Level)

Creating and Applying a View Template

Modifying System Settings

Creating a Mechanical System:
- Planning Mechanical (HVAC) Systems
- Understanding spaces
- Placing spaces
- Editing spaces
- Modifying spaces' properties
- Creating zones
- Adding /removing spaces to/from zones
- Modifying zones' properties
- Understanding the analytical model
- Working with analytical model
- Performing cooling and heating loads calculations
- Cooling and heating calculations report
- Understanding and working with schedules
- Preparing air flow schedule
- Spaces color fill as per calculated air flow

Designing Mechanical Air Systems:
- Understanding hosted and non-hosted families
- Understanding and modifying the mechanical settings for ducts and pipes
- Placing hosted and non-hosted air terminals
- Placing air handling equipment
- Creating duct works using generate layout
- Manually creating duct work
- Preparing the isometric duct works

Designing a Mechanical Piping System:
- Adding mechanical equipment
- Creating a piping system
- Adding pipe using generate layout
- Adding valves. Sizing Pipes
- Inspecting the system
- Preparing the piping isometric piping diagrams
- Preparing the 3D sections

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Creating an Electrical System:
- Planning an Electrical System
- Specifying electrical (wires, cable trays and conduits) settings
- Defining required lighting levels
- Preparing required LUX levels schedule
- Working with key schedules
- Creating color fills for LUX levels

Designing an Electrical System:
- Adding hosted and non-hosted lighting fixtures
- Modifying lighting fixtures properties
- Placing switches, junction boxes and receptacles
- Creating lighting circuits
- Creating a switch system
- Creating power systems
- Creating and modifying panel schedule templates
- Creating a panel schedules
- Checking the design

Creating a Plumbing System:
- Planning a Plumbing System
- Configuring a plumbing and piping system

Designing a Plumbing System:
- Adding sanitary fixtures
- Creating a sanitary system
- Preparing drainage isometric
- Creating cold water system
- Creating hot water system
- Preparing cold and hot water isometric

Creating a Fire Protection System:
- Planning a Fire Protection System
- Specifying pipe settings
- Determining zone requirements
- Creating a sprinkler design schedule

Designing a Fire Protection System:
- Adding sprinklers
- Creating a piping system using generate layout
- Creating the piping system manually
- Modifying pipe diameters

Documenting a Project
- Creating documentation views
- Working with annotations and dimensions
- Detailing
- Preparing bill of quantities for all electromechanical disciplines
- Modifying the project browser settings
- Working with filters

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