

## Technical Education Services

### Autodesk Revit Fundamentals for MEP

#### Course Length: 4 days

To take full advantage of Building Information Modeling, the Autodesk Revit Fundamentals for MEP course has been designed to teach the concepts and principles of creating 3D parametric models of MEP system from engineering design through construction documentation.

This course is intended to introduce users to the software's user interface and the basic HVAC, electrical, and piping/plumbing components that make the Autodesk Revit software a powerful and flexible engineering modeling tool. The course will also familiarize users with the tools required to create, document, and print the parametric model. The examples and practices are designed to take the users through the basics of a full MEP project from linking in an architectural model to construction documents.

#### Topics Covered

- Working with the Autodesk Revit software's basic viewing, drawing, and editing commands.
- Inserting and connecting MEP components and using the System Browser.
- Working with linked Revit files and CAD files.
- Creating spaces and zones so that you can analyze heating and cooling loads.
- Creating HVAC networks with air terminals, mechanical equipment, ducts, and pipes.
- Creating plumbing networks with plumbing fixtures and pipes.
- Creating electrical circuits with electrical equipment, devices, and lighting fixtures and adding cable trays and conduits.
- Creating HVAC and plumbing systems with automatic duct and piping layouts.
- Testing duct, piping and electrical systems.
- Creating and annotating construction documents.
- Adding tags and creating schedules.
- Detailing in the Autodesk Revit software.

#### Prerequisites

This course introduces the fundamental skills you need to learn the Autodesk Revit MEP software. It is highly recommended that you have experience and knowledge in MEP engineering and its terminology.

*Course description shown for Autodesk Revit 2020. Topics, curriculum, and/or prerequisites may change depending on software version.*



## Training Guide Contents

### Chapter 1: Introduction to BIM and Autodesk Revit

- 1.1 BIM and Autodesk Revit
- 1.2 Overview of the Interface
- 1.3 Starting Projects
- 1.4 Viewing Commands

### Chapter 2: Basic Sketching and Modify Tools

- 2.1 Using General Sketching Tools
- 2.2 Inserting Components
- 2.3 Selecting and Editing Elements
- 2.4 Working with Basic Modify Tools
- 2.5 Working with Additional Modify Tools

### Chapter 3: Starting Systems Projects

- 3.1 Linking and Importing CAD Files
- 3.2 Linking in Revit Models
- 3.3 Setting Up Levels
- 3.4 Copying and Monitoring Elements
- 3.5 Coordinating Linked Models
- 3.6 Batch Copying Fixtures

### Chapter 4: Working with Views

- 4.1 Modifying the View Display
- 4.2 Duplicating Views
- 4.3 Adding Callout Views
- 4.4 Creating Elevations and Sections

### Chapter 5: Setting Up Spaces

- 5.1 Preparing a Model for Spaces
- 5.2 Adding Spaces
- 5.3 Working with Spaces

### Chapter 6: Heating and Cooling Loads Analysis

- 6.1 Creating Zones
- 6.2 Applying Color Schemes
- 6.3 Analyzing the Heating and Cooling Loads

### Chapter 7: Basic Systems Tools

- 7.1 Connecting Components
- 7.2 Creating Systems - Overview

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## Chapter 8: HVAC Networks

- 8.1 Adding Mechanical Equipment and Air Terminals
- 8.2 Adding Ducts and Pipes
- 8.3 Modifying Ducts and Pipes

## Chapter 9: Plumbing Networks

- 9.1 Adding Plumbing Fixtures and Equipment
- 9.2 Adding Plumbing Pipes
- 9.3 Modifying Plumbing Pipes
- 9.4 Adding Fire Protection Networks

## Chapter 10: Advanced Systems for HVAC and Plumbing

- 10.1 Creating and Modifying Systems
- 10.2 Creating Automatic Layouts
- 10.3 Testing Systems

## Chapter 11: Electrical Systems

- 11.1 About Electrical Systems
- 11.2 Placing Electrical Components
- 11.3 Creating Electrical Circuits
- 11.4 Setting up Panel Schedules
- 11.5 Adding Cable Trays and Conduit
- 11.6 Testing Electrical Layouts

## Chapter 12: Creating Construction Documents

- 12.1 Setting Up Sheets
- 12.2 Placing and Modifying Views on Sheets
- 12.3 Printing Sheets

## Chapter 13: Annotating Construction Documents

- 13.1 Working with Dimensions
- 13.2 Working With Text
- 13.3 Adding Detail Lines and Symbols
- 13.4 Creating Legends

## Chapter 14: Adding Tags and Schedules

- 14.1 Adding Tags
- 14.2 Working with Schedules

## Chapter 15: Creating Details

- 15.1 Setting Up Detail Views
- 15.2 Adding Detail Components
- 15.3 Annotating Details

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### **Appendix A: Introduction to Worksets**

- A.1 Introduction to Worksets

### **Appendix B: Additional Tools**

- B.1 Building Type Settings
- B.2 Defining Color Schemes
- B.3 Custom Duct and Piping Types
- B.4 Work with System Graphics
- B.5 Pressure Loss Reports
- B.6 Guide Grids and Sheets
- B.7 Revision Tracking
- B.8 Annotating Dependent Views
- B.9 Importing and Exporting Schedules
- B.10 Creating Building Component Schedules
- B.11 Keynoting and Keynote Legends

### **Appendix C: Autodesk Revit Certified Professional Exam for Mechanical Building Systems**

### **Appendix D: Autodesk Revit Certified Professional Exam for Electrical Building Systems**

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## Cancellation Policy

The following cancellation policy shall apply to all training engagements, Live Online, Consulting Services and Dedicated/Custom Training:

- Company reserves the right to reschedule or cancel the date, time and location of its class at any time. In the event that a Training Class is cancelled by Company, Customer is entitled to a full refund. Company shall not be responsible for any other loss incurred by Customer as a result of a cancellation or reschedule.
- For Customer cancellations when written notice is received (i) at least ten (10) business days in advance of the class, the Customer is entitled to a full refund of its payment or reschedule enrollment, (ii) less than ten (10) business days, Customer shall not be entitled to a refund, but shall receive a class credit to be used within three (3) months of the date of the original class.
- Student substitutions are acceptable with at least two (2) days prior notice to the class, provided substitution meets course prerequisites and is approved by Company's Training Coordinator ([trainingcoordinator@rand.com](mailto:trainingcoordinator@rand.com))
- For all Training orders, cancellation notices must be submitted to [trainingcoordinator@rand.com](mailto:trainingcoordinator@rand.com). Company is not responsible for any error in the delivery of the email notice. In the event of any reschedule of Consulting Services and/or Dedicated/Custom Training by Customer, Company will invoice Customer for all non-cancellable travel expenses.

To request more information or to see training locations, visit [www.imaginit.com/contact-us](http://www.imaginit.com/contact-us).

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