

# **Autodesk Revit for Electrical System**

## **Target Audience**

This course is designed for electrical engineers, designers, BIM modelers, and MEP professionals who want to master electrical system design in Autodesk Revit. It is ideal for individuals working in building design, construction, and facility management who need to create, analyze, and document electrical layouts efficiently within a BIM environment.

## **Course Objective**

The course objective is to provide learners with the skills to design, model, and document electrical systems using Revit, ensuring compliance with industry standards and improving project coordination within a multidisciplinary workflow. Participants will gain hands-on experience in setting up electrical components, circuiting, and panel schedules while integrating with other MEP systems.

## **Course Outcome**

- Create and configure electrical systems in Revit, including power distribution, lighting, and circuiting.
- Generate accurate documentation and panel schedules to streamline project execution.
- Collaborate with other MEP disciplines by integrating electrical designs into a coordinated BIM model.
- Analyze electrical loads and distribution to enhance system efficiency and ensure compliance with industry standards.



**Course Outline:** The course comprises **40-hours** of theory and labs and is divided into **10** different chapters. Each chapter will be followed by hands-on lab exercises to reinforce learning and gauge understanding of the topics covered.

## Chapter 1. The Revit Interface

- Using the Steering Wheel & ViewCube
- Changing the View Background
- Closing and Opening the Project Browser & Properties Palette
- Using the System Browser
- Changing the Ribbon Display
- Temporary, Permanent, and Listening Dimensions
- Setting File Locations
- Adding a Template to the Template List
- Turning Off the Visibility of Ribbons

## Chapter 2. Revit Families

- Working with Revit Families and Elements
- Identifying a Wall in a Linked File
- Place a Lighting Fixture and a Switch
- Select and Modify a Component
- Copy a Component
- Mirror a Component
- Align a Component
- Draw, Modify, and Offset Cable Trays
- Place Light Fixtures and Switches (reprised)
- Adding and Modifying Equipment, Devices, and Fixtures
- Making a Component Room Aware
- Adding Receptacles
- Create a New Family Type
- Create a Detail Component Family
- Create a Detail Item Family
- Lab Exercises

## Chapter 3. Revit Systems

- Space Lighting Calculations
- Managing Spaces
- Creating a Distribution System



Define a Power System  
Define an Electrical Circuit  
Adding Space Tags  
Creating a Color Scheme for Lighting Loads  
Project Energy Settings  
Lab Exercises

## Chapter 4. Wiring

Place Wiring Manually  
Display Wire Tick Marks  
Create a Home Run Wire  
Create a Multiple Circuit Home Run Wire  
Create a Circuit  
Defining Switch Legs  
Wiring to a Junction Box  
Lab Exercises

## Chapter 5. Conduits

Creating a Conduit Standard  
Creating a Conduit Family  
Defining View Filters  
Applying View Filters to a View  
Placing Conduits  
Assigning Conduit Fittings to Conduit Families  
Adding a Conduit  
Adding Parallel Conduits  
Using View Templates  
Create a Conduit Run Schedule  
Creating a Conduit Saddle  
Creating a Conduit Roll  
Place a Conduit through a Pipe  
Lab Exercises

## Chapter 6. Schedules

Creating a Lighting Fixture Schedule  
Creating a Lighting and Power Usage Schedule  
Creating a Sheet List  
Creating a Note Block



Creating a Schedule Key  
Creating a Panel Schedule  
Lab Exercises

## Chapter 7. Views

Creating a Plan View  
Creating an Elevation View  
Creating a Section View  
Creating a Call-out View  
Creating a Detail View  
Creating a 3D View  
Creating a Legend  
Creating a Legend using Detail Components  
Creating a Drawing View  
Controlling the Display in Views  
Organize Views in the Project Browser  
Create a View List  
Using a View Template  
Modifying View Tag Properties  
Create a View Tag Family  
Using Scope Boxes  
Using Scope Boxes to Control Grid Display  
Lab Exercises

## Chapter 8. Projects

Linking Files  
Working in a Host File  
Coordination Review  
Interference Checking  
Creating Load Classifications  
Assigning Load Classifications to a Family  
Assigning Load Names to a Circuit  
Creating a Shared Parameter  
Add a Shared Parameter to a Family  
Assigning Lighting Zones to Light Fixtures  
Creating a Custom Lighting Fixture Tag  
Transfer Project Standards  
Understanding Shared Coordinates  
Understanding Location



Linking Files Using Shared Coordinates  
Defining a Shared Site  
Transmit a Model

## **Chapter 9. Annotation, Dimensions and Symbols**

Adding Dimensions  
Create a Dimension Style  
Modifying Dimensions  
Create Ordinate Dimensions  
Adding a Text Note  
Create a Text Type  
Using Keynotes  
Create a Keynote Legend  
Tag Light Fixtures  
Tag Devices  
Define a Ground Symbol  
Place a Symbol  
Creating Arrowhead Styles  
Using Global Parameters  
Lab Exercises

## **Chapter 10. Sheets and Titleblocks**

Add a Sheet  
Add Views to a Sheet  
Align Views on a Sheet  
Update a Titleblock  
Load a Titleblock  
Adding Project Information to a Titleblock  
Creating a Custom Titleblock  
Using a Custom Titleblock  
Defining a Revision Schedule  
Modify a Revision Schedule in a Titleblock  
Add Revisions in a Titleblock  
Using a View List to Check Sheets  
Defining Sheet Organization  
Printing a Documentation Set to PDF  
Lab Exercises

