

# 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