Autodesk Revit for Electrical Systems

Course Description:

This course is designed for electrical workers seeking to master the use of Revit Architecture for electrical systems and components. Participants will gain hands-on experience with Revit's powerful features, learning to navigate the interface, create and modify components, manage systems, and produce detailed project documentation. The course covers essential skills, including working with families, wiring, conduits, schedules, views, and more, enabling electrical workers to integrate seamlessly with architectural and engineering teams using Revit.

Audience Profile:

This course is ideal for:

- Electrical engineers and technicians who want to enhance their design skills with Revit Architecture.

- Construction professionals interested in incorporating electrical components into architectural models.

- Revit users from other disciplines who wish to specialize in electrical systems.

- Students and professionals aiming to gain a competitive edge in the architecture, engineering, and construction (AEC) industry.

Prerequisites:

Participants should have a basic understanding of electrical systems and components, as well as foundational skills in computer-aided design (CAD). Prior experience with Revit or other BIM (Building Information Modeling) software is beneficial but not mandatory.

Course Objectives:

By the end of this course, participants will be able to:

1. Navigate and customize the Revit interface for electrical design tasks.

2. Create and modify Revit families and elements specific to electrical systems.

3. Develop and manage electrical circuits, systems, and components.

4. Produce detailed schedules, annotations, and symbols for electrical projects.

5. Integrate electrical designs with architectural and engineering models.

6. Utilize Revit's tools for efficient project documentation and presentation.

Module-wise Table of Contents:

Lesson One: The Revit Interface

1. Using the Steering Wheel & ViewCube

2. Changing the View Background

3. Closing and Opening the Project Browser & Properties Palette

4. Using the System Browser

5. Changing the Ribbon Display

6. Temporary, Permanent, and Listening Dimensions

7. Setting File Locations

8. Adding a Template to the Template List

9. Turning Off the Visibility of Ribbons

Lesson Two: Revit Families

1. Working with Revit Families and Elements

2. Identifying a Wall in a Linked File

3. Place a Lighting Fixture and a Switch

4. Select and Modify a Component

5. Copy a Component

6. Mirror a Component

7. Align a Component

8. Draw, Modify, and Offset Cable Trays

9. Place Light Fixtures and Switches (reprised)

10. Adding and Modifying Equipment, Devices, and Fixtures

11. Making a Component Room Aware

12. Adding Receptacles

13. Create a New Family Type

14. Create a Detail Component Family

15. Create a Detail Item Family

16. Lab Exercises

Lesson Three: Revit Systems

1. Space Lighting Calculations

2. Managing Spaces

3. Creating a Distribution System

4. Define a Power System

5. Define an Electrical Circuit

6. Adding Space Tags

7. Creating a Color Scheme for Lighting Loads

8. Project Energy Settings

9. Lab Exercises

Lesson Four: Wiring

1. Place Wiring Manually

2. Display Wire Tick Marks

3. Create a Home Run Wire

4. Create a Multiple Circuit Home Run Wire

5. Create a Circuit

6. Defining Switch Legs

7. Wiring to a Junction Box

8. Lab Exercises

Lesson Five: Conduits

1. Creating a Conduit Standard

2. Creating a Conduit Family

3. Defining View Filters

4. Applying View Filters to a View

5. Placing Conduits

6. Assigning Conduit Fittings to Conduit Families

7. Adding a Conduit

8. Adding Parallel Conduits

9. Using View Templates

10. Create a Conduit Run Schedule

11. Creating a Conduit Saddle

12. Creating a Conduit Roll

13. Place a Conduit through a Pipe

14. Lab Exercises

Lesson Six: Schedules

1. Creating a Lighting Fixture Schedule

2. Creating a Lighting and Power Usage Schedule

3. Creating a Sheet List

4. Creating a Note Block

5. Creating a Schedule Key

6. Creating a Panel Schedule

7. Lab Exercises

Lesson Seven: Views

1. Creating a Plan View

2. Creating an Elevation View

3. Creating a Section View

4. Creating a Call-out View

5. Creating a Detail View

6. Creating a 3D View

7. Creating a Legend

8. Creating a Legend using Detail Components

9. Creating a Drafting View

10. Controlling the Display in Views

11. Organize Views in the Project Browser

12. Create a View List

13. Using a View Template

14. Modifying View Tag Properties

15. Create a View Tag Family

16. Using Scope Boxes

17. Using Scope Boxes to Control Grid Display

18. Lab Exercises

Lesson Eight: Projects

1. Linking Files

2. Working in a Host File

3. Coordination Review

4. Interference Checking

5. Creating Load Classifications

6. Assigning Load Classifications to a Family

7. Assigning Load Names to a Circuit

8. Creating a Shared Parameter

9. Add a Shared Parameter to a Family

10. Assigning Lighting Zones to Light Fixtures

11. Creating a Custom Lighting Fixture Tag

12. Transfer Project Standards

13. Understanding Shared Coordinates

14. Understanding Location

15. Linking Files Using Shared Coordinates

16. Defining a Shared Site

17. Transmit a Model

Lesson Nine: Annotations, Dimensions, and Symbols

1. Adding Dimensions

2. Create a Dimension Style

3. Modifying Dimensions

4. Create Ordinate Dimensions

5. Adding a Text Note

6. Create a Text Type

7. Using Keynotes

8. Create a Keynote Legend

9. Tag Light Fixtures

10. Tag Devices

11. Define a Ground Symbol

12. Place a Symbol

13. Creating Arrowhead Styles

14. Using Global Parameters

15. Lab Exercises

Lesson Ten: Sheets and Titleblocks

1. Add a Sheet

2. Add Views to a Sheet

3. Align Views on a Sheet

4. Update a Titleblock

5. Load a Titleblock

6. Adding Project Information to a Titleblock

7. Creating a Custom Titleblock

8. Using a Custom Titleblock

9. Defining a Revision Schedule

10. Modify a Revision Schedule in a Titleblock

11. Add Revisions in a Titleblock

12. Using a View List to Check Sheets

13. Defining Sheet Organization

14. Printing a Documentation Set to PDF

15. Lab Exercises

This course outline provides a structured approach to mastering Revit Architecture for electrical design, ensuring participants are well-equipped to apply these skills in practical settings.