



 **SOLIDWORKS**  
**SOLIDWORKS Electrical**  
**Training**

Course Outline

**SOLID**  **PERTS**  
by solidxperience

***ENSURE YOUR SUCCESS IN 3D DESIGN WITH SOLIDWORKS***

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## SOLIDWORKS Electrical: Schematic – 3 days (21h)

### 1. Project Templates

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- SOLIDWORKS Electrical
- Stages in the process
- Starting SOLIDWORKS Electrical
- What are projects?
- Project templates
- Project configurations
- How is a project structured?

### 2. Modifying Project Templates

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- What are environments?
- Draw multiples wires

### 3. Drawing Types

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- What are drawing types?
- Existing and archived projects
- Line diagram symbols
- Adding cables
- Symbols panel
- Schematic symbols
- Symbol properties

### 4. Symbols and Components

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- What is a component?
- Description columns
- Symbol component association

### 5. Manufacturer's parts

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- What are manufacturer's parts?
- Circuits and terminals
- Finding manufacturer parts
- Electrical assemblies

### 6. Wires and Equipotentials

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- Equipotentials and wires
- Wire style manager
- Replacing wire
- Equipotential numbering results
- Wire numbering results
- Using nodal indicators

### 7. Cabling

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- What is cabling?
- Cables
- Detailed cabling
- Terminal strip
- Pin to pin connections
- Copy and paste

### 8. Symbol Creation

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- Symbols and standards
- Symbols manager
- Symbol properties
- Circuits, terminals, types
- Multiple attributes
- Splitting attribute data
- Add to library
- Copy, paste symbol

### 9. Macros

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- What are macros?
- Creating and adding macros

*see Part 2 on next page »*

**Course Objectives :** At the end of each course, students will know the capabilities of the software and will be able to use the learned features.

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**Methodology :** Training is based on case studies demonstrated by the instructor. At the end of each lesson, time will be given for exercises.

**Competences Evaluation :** During the classwork, the instructor will correct the exercises on-demand and explain the solutions to the entire class if needed.

**Instructor :** SolidXperts trainers are Certified SolidWorks Instructors (CSWI) and authorized by Emploi-Québec.

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## SOLIDWORKS Electrical: Schematic (Part 2)

### 10. Cross Referencing

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- What is Cross Referencing?
- Cross Referencing List
- Cross Referencing State colors
- Cross Referencing Text coding
- Cross Referencing Types
- Cross Referencing Location List

### 11. Managing Origin-Destination Arrows

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- What are Origin-Destination Arrows?
- Origin-Destination Arrows

### 12. Dynamic Programmable Logic Control

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- What is a PLC?
- Adding a New Scheme
- Adding a PLC Mark
- Inserting a PLC
- Editing a PLC

### 13. Automated Programmable Logic Control

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- How are PLCs Automated?
- PLC mark part
- IO manager

### 14. Connectors

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- Connectors
- Insert Connector
- Connector Insertion

### 15. 2D Cabinet Layouts

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- What are Cabinet Layouts?
- Creating a 2D Layout
- Inserting Ducts and Rails
- Inserting Components
- Wire Cabling Order

### 16. Design Rule Checks

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- What are Design Rule Checks?
- Unconnected Pins
- Equipotential Conflicts
- Max. Terminal Wires
- Duplicated Parent Symbols
- Child Symbols without Parent
- Empty Terminal Strip
- Duplicated Terminals

### 17. Reports

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- What are Reports
- Report Manager
- Report Columns
- Column Formula
- SQL Query Column Variable
- Sort and Break

### 18. Simple Reports

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- What are Views?

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## SOLIDWORKS Electrical: 3D – 1 day (7h)

### 1. Assembly Creation

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- What are Assemblies?
- Unarchiving a Project
- SOLIDWORKS Assembly

### 2. Cabinets, Ducts, & Rails

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- Cabinets, Ducts, & Rails
- Insert Components
- Inserting Rails
- Inserting Ducts

### 3. Component Intelligence

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- What is a component?
- Component Intelligence
- The Electrical Component Wizard

### 4. Insert Components

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- Insert Components
- Align Components
- Inserting Terminals

### 5. Routing Wires

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- Routing Wires
- Routing Path
- Route Wires

### 6. Routing Cables

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- Routing Cables
- Route Cables
- Set Origin Destination of Cables by Location

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## SOLIDWORKS Routing : Electrical – 1 day (7h)

### 1. Fundamentals of Routing

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- What is Routing?
- Routing Setup
- General Routing Settings

### 2. Basic Electrical Routing

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- Basic Electrical Routing
- Adding Routing Components
- Start by Drag and Drop Connector
- Auto Route
- Save to External Files

### 3. Routing with Clips

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- Routing with Clips
- Routing Through Existing Clips
- Adding Clips while Auto Routing
- Editing a Route
- Working with Clips
- Routing Through a Clip
- Splitting a Route
- Adding a Splice
- Multiple Routes Through a Clip

### 4. Electrical Routing Components

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- Routing Library Parts Introduction
- Electrical Routing Library Parts
- Libraries
- Routing Component Wizard
- Routing Component Attributes
- Electrical Libraries

### 5. Standard Cables and Reusing Routes

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- Using Standard Cables
- Standard Cable Excel File
- Modifying Standard Cables
- Creating a standard Cable
- Reuse route
- Delink harness
- Routing Templates

### 6. Electrical Data Import

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- Importing Data
- Routing Library Manager
- From/To Lists
- Route Properties
- Route Guidelines
- Using Guidelines and Clips

### 7. Electrical Drawings

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- Route Flattening and Detailing
- Annotation Flattening
- Flatten Route
- Manufacture Flattening

### 8. Flex Cables

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- Flex Cables
- Flex Cable Routes
- Flex Cable Auto Routing
- Using Flex Cables with Clips

### 9. Electrical Conduits

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- Electrical Conduits
- Rigid Conduit
- Orthogonal Routing with Auto Route
- Electrical Data in Conduits
- Manual Sketch Routing
- Flexible Electrical Conduit

### Appendix A: Review Section

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- Review of Configurations
- A Note About File References
- Design Tables
- Review of Top Down Design
- Editing Options
- Review of Design Library Task Pane
- Review of 3D Sketching

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