SOLIDWORKS PCB Essentials Course

LENGTH: 3 DAYS

Prerequisites: SOLIDWORKS Essentials course, experience doing electronics schematic design and experience with the Windows operating system.

Description: This course covers the essential features of SOLIDWORKS PCB. Learn how to develop schematics for your board layouts, add components and assign supplier links, and check design integrity using rules. Create PCB designs using configurable layer stacks, add keepouts and cutouts, place and route components, and add copper pours. Learn how to collaborate seamlessly with SOLIDWORKS to finalize the designs, with a managed ECO change process, then configure and automatically generate output files for manufacturing.

Topics covered in this course are:

Lesson 1: SOLIDWORKS PCB Basics and the User Interface
Overview
SOLIDWORKS PCB Environment

Lesson 2: Working with PCB Design Projects
Understanding Projects
Creating Projects
Creating Project Documents
Basic Project Management Tasks
Exercise 1: Create Project
Exercise 2: Create Drawing
Exercise 3: Add Library
Exercise 4: Export Design

Lesson 3: Creating Schematic Templates
Understanding Templates
Creating One Template from Another
Inserting a Company Logo
Setting Document Text Parameters
Setting Template Project Parameters
Exercise 5: Create Template
Exercise 6: Insert Logo
Exercise 7: Document Parameter
Exercise 8: Project Parameter

Lesson 4: Configuring the Schematic Preferences
Optimizing Wires and Buses
Breaking Wires at Autojunctions
Displaying Cross-Overs
Auto Panning
Exercise 9: Optimize Wires
Exercise 10: Auto Pan and Break Wires

Lesson 5: Populating Schematics
Using Symbol Placement Shortcuts
Placing Library Components
Placing Parts
Inserting Power Ports
Applying Supplier Links
Exercise 11: Insert Symbols
Exercise 12: Set Supplier Link

Lesson 6: Creating Schematic Connections
Wiring Placement Modes
Placing Wire Connections
Creating Buses
Using Net Labels
Exercise 13: Place Wires
Exercise 14: Create Bus
Exercise 15: Add Net Labels

Lesson 7: Using Schematic Annotations
Processing Order
Processing Location
Matching Options
Proposed Change List
Engineering Change Order
Exercise 16: Add Schematic Annotations

Lesson 8: Compiling and Verification
Setting Design Violations
Compiling and Realizing the Results
Resolving Error Violations and Warnings
Exercise 17: Set Violations
Exercise 18: Compile and Resolve Errors

Lesson 9: Collaborating with SOLIDWORKS
Creating a PCB Board in SOLIDWORKS
Pushing a Board to SOLIDWORKS PCB
Creating a PCB Board in SOLIDWORKS PCB
Pushing a Board to SOLIDWORKS
Exercise 19: SOLIDWORKS to SOLIDWORKS PCB
Exercise 20: SOLIDWORKS PCB to SOLIDWORKS

Lesson 10: Configuring Layers and PCB Stacks
Configuring PCB View Configurations
Defining the Board Layer Stack
Exercise 21: Configure Layer View
Exercise 22: Create Multi Layer Board Stack

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Lesson 11: Configuring the Outline, Keepout and Cutout
Redefining the Board Shapes
Applying Cutouts
Applying Keepouts
Exercise 23: Redefine the Board Shape
Exercise 24: Create a Cutout

Lesson 12: Configuring Origins and Grids
Setting an Origin
Creating a Cartesian Grid
Creating a Polar Grid
Exercise 25: Set the Origin
Exercise 26: Create a Grid

Lesson 13: Transferring Design Data
Linking Components
Updating Schematics
Updating the PCB Layout
Exercise 27: Insert PCB Footprint

Lesson 14: Placing Footprints
Positioning Footprints
Repositioning Footprints in SOLIDWORKS
Exercise 28: Position Board Components

Lesson 15: Using Design Rule Checks
Modifying the Existing Rules
Creating New Rules
Exercise 29: Modify Design Rule

Lesson 16: Routing
Interactive Routing Preferences
Interactive Routing Nets
Quick Routing
Adding Vias
Multi-Trace Routing
Autorouting
Adjusting the Tracks to Fix Errors
Exercise 30: Routing

Lesson 17: Defining Polygon Pour
Setting Polygon Pour Parameters
Defining Polygon Pours Nets
Exercise 31: Define Polygon Pour

Lesson 18: Inspection - Global Edition
Finding Similar Objects
Modifying Multiple Objects
Exercise 32: Find and Modify Objects

Lesson 19: Outputting Data
Configuring Output Files
Generating Manufacturing Output
Exercise 33: Configure and Generate Output

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