CADspace Training

Course Outline

CADSPACE 3D CAD SOFTWARE

SOLIDWORKS PCB Essentials – 4 days

Description	The goal of this course is to teach you the core tools and features required for the development and realisation of a basic PCB Project.
Prerequisites	SolidWorks Essentials – SolidWorks Electrical experience – Electrical Design experience

Introduction
About this course
Prerequisites
Basic knowledge of Electrical design and experience
Technical terminologies used

Lesson 1: SOLIDWORKS PCB Basics and the User Interface
Application Collaboration
SOLIDWORKS PCB Connector
Signing-in to PCB Services
SOLIDWORKS PCB Environment
Ribbon Menu System
Quick Access Bar
Start Page
User Interface Elements
System Preferences

Lesson 2: Working with PCB Design Projects
Understanding Projects
PCB Project Documents
Creating Projects
Creating Project Documents
Project Document Types
Creating a New Document
Adding Libraries
Basic Project Management Tasks
Saving and Committing a Project
Transferring or Archiving a Design
Deleting a Project

Lesson 3: Creating Schematic Templates
Understanding Templates
Creating One Template from Another
Inserting a Company Logo
Setting Document Text Parameters
Setting Template Project Parameters

Lesson 4: Configuring the Schematic Preferences
Optimizing Wires and Buses
Breaking Wires at Autojunctions
Displaying Cross-Overs
Auto Panning

Lesson 5: Creating Symbols
Creating New Symbols
Using the Symbol Wizard

Lesson 6: Populating Schematics
Using Symbol Placement Shortcuts
Placing Library Components
Placing Parts
Inserting Power Ports
Applying Supplier Links

Lesson 7: Creating Schematic Connections
Wiring Placement Modes
Placing Wire Connections
Wire Guides
Breaking Wires Overlaying Components
Creating Buses
Using Net Labels
Physical versus Logical Connections

Lesson 8: Using Schematic Annotations
Processing Order
Processing Location
Matching Options
Proposed Change List
Engineering Change Order

Lesson 9: Compiling and Verification
Setting Design Violations
Compiling and Realizing the Results
Resolving Error Violations and Warnings
Set Violations
Compile and Resolve Errors

Lesson 10: Collaborating with SOLIDWORKS
Creating a PCB Board in SOLIDWORKS
Pushing a Board to SOLIDWORKS PCB
Creating a PCB Board in SOLIDWORKS PCB
Pushing a PCB Board to SOLIDWORKS
SOLIDWORKS to SOLIDWORKS PCB
SOLIDWORKS PCB to SOLIDWORKS

Lesson 11: Configuring Layers and PCB Stacks
Configuring PCB View Configurations
Defining the Board Layer Stack
Layer Stack Manager
Presets and Existing Boards
Stack up Styles
Drill Pairs
Checking the Board Thcikness in SOLIDWORKS
Searching Projects
Configure Layer View
Create Multi-Layer Board Stack

Lesson 12: Designing Rigid-Flex PCBs
Using the Rigid-Flex Approach for Designing PCBs
Understanding the Collaboration Workflow of Rigid-Flex PCBs
Repositioning Components on a Rigid-Flex Board
Create a Rigid-Flex PCB

Lesson 13: Configuring the Outline, Cutouts and Keepouts
Redefining the Board Shapes
Applying Cutouts
Creating Cutout Patterns
Applying Keepouts
Defining PCB Placement Constraints in SOLIDWORKS
Create a Height Barrier in SOLIDWORKS

Lesson 14: Configuring Origin and Grids
Setting an Origin
Creating a Cartesian Grid
Creating a Polar Grid
Set the Origin
Create a Grid

Lesson 15: Transferring Design Data
Linking Components
Updating Schematics
Updating the PCB Layout
Inserting PCB Footprint

Lesson 16: Creating Footprints
Creating New Footprint
Using the IPC Footprint Wizard

Lesson 17: Placing Footprints
Positioning Footprints
Repositioning Footprints in SOLIDWORKS
Position Board Components
Reposition Components in SOLIDWORKS

Lesson 18: Using Design Rule Checks
Modifying the Existing Rules
Creating New Rules
Modifying Design Rules

Lesson 19: Routing
Interactive Routing Preferences
Inactive Routing Nets
Quick Routing
Adding Vias
Multi-Trace Routing
Autorouting
Adjusting the Tracks to Fix Errors

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SOLIDWORKS Authorized Reseller

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Lesson 20: Defining Polygon Setting Polygon Pour Parameters Defining Polygon Pours Nets	**Lesson 21: Inspection – Global Edition** Finding Similar Objects Modifying Multiple Objects	**Lesson 22: Outputting Data** Configuring Output Files Generating Manufacturing Output