

# Inspiritech SolidWorks® Fundamentals Training

## Overview

At Inspiritech we understand that learning a new software package can be an overwhelming task. Often times, it is difficult to even know where to begin. So, we have put together a structured course that guides users through the learning process. Inspiritech sets itself apart from the competition with a unique and highly effective holistic approach to teaching. Lessons are filled with engaging examples and exercises that are just enough to inspire confidence, yet not too much to confuse and frustrate the learner. Upon completion of the course, learners will be prepared to challenge the CSWA exam.

## Training features

- Convenient self-paced learning
- Over 8 hours of instructional videos
- 18 project based lessons
- Over 120 examples and exercises
- SolidWorks files included
- Online support

## Table of contents

### Getting started with Inspiritech Training

- Overview of the Inspiritech lesson format
- Changing and backing up SolidWorks settings
- Uploading example and exercise files

### Lesson 1 - Introduction to Parametric Solid Modeling

- Introduction to the SolidWorks user interface
- Understanding the three major SolidWorks file types
- Manipulation of SolidWorks files
- Parametric Solid Modeling explained

### Lesson 2 - Material, Colors & Mass Properties

- Applying colors and textures in SolidWorks
- Defining materials
- Rendering models with RealView™
- Analyzing Mass Properties of a model

### **Lesson 3 - Introduction to Parts**

- Starting new Part files
- Defining a 3D workspace
- SolidWorks Sketching
  - Lines and Rectangles
  - Sketch Relations
  - Smart Dimensions
  - Sketch States
- Boss Extrudes
  - Blind
  - Mid plane
  - Drafted
  - Two direction

### **Lesson 4 - Cut Extrudes and Construction Geo**

- Sketching on a Face
- Sketch Tools
  - Circles
  - Construction Lines
  - Concentric Relationships
  - Midpoint Relationships
- Editing a Part
- Cut Extrudes
  - Blind
  - Up to Next
  - Through All

### **Lesson 5 - Mirrors, Fillets & Trims**

- Sketch Tools
  - Mirrors
  - Fillets
  - Trims
  - Tangent Relationships
  - Smart Dimensioning tips

### **Lesson 6 - Offsets, Convert Entities & Fillets**

- Sketch Offsets
  - Single direction offsets
  - Bi-directional offsets
  - Cap ends
  - Converting construction geometry
- Fillet Feature
  - Tangent Propagation

## **Lesson 7 - Revolves, Chamfers & Shells**

- Boss Revolves
- Cut Revolves
- Chamfers
- Shells
- Sketch Tools
  - 3 Point Arcs
  - Tangent Arcs

## **Lesson 8 - Hole Wizards & Sketch Patterns**

- Hole Wizard Holes
- Linear Sketch Patterns
- Circular Sketch Patterns

## **Lesson 9 - Introduction to Assemblies**

- Introduction to Assemblies
- Inserting new Parts
- Rotating Parts
- Mates – Coincident Mate

## **Lesson 10 - Concentric Mates & Physical Dynamics**

- Concentric Mates
- Assembly Motion
- Properly moving components
- Suppressing features
- Physical dynamics

## **Lesson 11 - Additional Mates & Sub-Assemblies**

- New Mates
  - Distance & Limit Distance
  - Angle & Limit Angle
  - Tangent
- Sub-Assemblies
- Flexible Sub-Assemblies

## **Lesson 12 - Introduction to Drawings**

- Drawing templates
- Inserting components
- Projected views
- Drawings Scale
- Display Style
- Adding Dimensions
- Adding Notes

## **Lesson 13 - Additional Views & Dimensions**

- Section views
- Detailed views
- Ordinate Dimensions
- Sketches in a Drawing
- Hiding Edges

## **Lesson 14 - Assembly Drawings**

- Bill of materials
- Balloons
- Auxiliary Position views
- Multiple Sheets
- Part Descriptions
- Exporting Drawings
- Current model view
- Configurations
- Linked Text

## **Lesson 15 - Sweeps**

- Features requiring more than one sketch
- Adding Planes
- Helix and Spiral
- Swept Boss
- Swept Cut

## **Lesson 16 - Lofts**

- Lofted Boss
- Lofted Cut
- Loft Start/End constraints
- Polygons
- Angled Planes

## **Lesson 17 - Feature patterns**

- Mirror
- Linear Patterns
- Circular Patterns
- Geometry Patterns
- Temporary Axis

## **Lesson 18 - COSMOSXpress**

- Finite Element Analysis
- Adding Restraints and Loads
- Understanding analysis results
- Creating HTML reports
- Splitting surfaces
- Optimizing Parts for factor of safety and displacement