



Shounco Design Studios
Your Complete Engineering Resource Center

SolidWorks Essentials Course

The goal of this course is to teach you how to use the SolidWorks mechanical design automation software to build parametric models of parts and assemblies and how to make drawings of those parts and assemblies. The focus of this course is on the fundamental skills and concepts central to the successful use of SolidWorks.

Outline: This course covers topics in the creation and editing of parts, assemblies and drawings in SolidWorks. Topics covered are:

SolidWorks Essentials 1

Lesson 1: SolidWorks Basics and the User Interface

- Design Intent
- File References
- Opening Files
- SolidWorks User Interface
- Mouse Buttons
- System Feedback
- Options

Lesson 2: Intro to Sketching

- Starting A New Part
- Saving Files
- 2D Sketching
- Sketch Entities
- Rules That Govern Sketches
- Design Intent
- Sketch Relations
- Dimensions
- Extrude

Lesson 3: Basic Part Modeling

- Terminology
- Choosing the Best Profile
- Choosing the Sketch Plane
- Boss Features
- Sketching on a Planar Face
- Cut Features
- Using the Hole Wizard
- View Options
- Filletting
- Detailing Basics
- Drawing Views
- Center Marks
- Dimensioning
- Model Changes

Lesson 4: Modeling a Casting or Forging

- Boss Feature with Draft
- Symmetry in the Sketch
- Sketching Inside the Model
- View Options
- Using Model Edges in a Sketch
- Creating Trimmed Sketch Geometry
- Using Copy and Paste
- Editing Features



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Lesson 5: Patterning

- Creating Patterns
- Reference Geometry
- Linear Pattern
- Circular Patterns
- Mirror Patterns
- Sketch Driven Patterns

Lesson 6: Revolved Features

- Revolved Features
- Building the Rim
- Building the Spoke
- Edit Materials
- Mass Properties
- File Properties
- SolidWorks SimulationXpress

SolidWorks Essentials 2

Lesson 7: Shelling and Ribs

- Analyzing and Adding Draft
- Other Options for Draft
- Shelling
- Ribs
- Full Round Fillets
- Thin Features

Lesson 8: Editing: Repairs

- Rebuild Errors
- Repair Techniques
- Sketch Issues
- FilletXpert
- Draft Expert

Lesson 9: Editing: Design Changes

- Design Changes
- Information From a Model
- Rebuilding Tools
- Sketch Contours
- Editing with Instant 3D

Lesson 10: Configuration of Parts

- Creating Configurations
- Using Configurations
- Editing Parts that Have Configurations
- Design Library

Lesson 11: Design Tables and Equations

- Link Values
- Equations
- Design Tables
- Existing Design Tables
- Modeling Strategies for Configurations

Lesson 12: Using Drawings

- More About Making Drawings
- Section View
- Model Views
- Broken View
- Detail Views
- Projected Views
- Annotations
- Drawings Sheets and Sheet Formats
- Define Title Block



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Lesson 13: Bottom-Up Assembly Modeling

- Creating a New Assembly
- Position of the First Component
- FeatureManager Design Tree and Symbols
- Adding Components
- Using Part Configurations in Assemblies
- Creating Copies of Instances
- Component Hiding and Transparency
- Component Properties
- Sub-assemblies
- Smart Mates
- Inserting Sub-assemblies
- Pack and Go

Lesson 14: Using Assemblies

- Analyzing the Assembly
- Checking for Clearances
- Model Changes
- Exploded Assemblies
- Bill of Materials
- Assembly Drawings

Prerequisites:

Mechanical design experience and an understanding of the Windows ® Operating System.

Length:
4 Days

Cost: \$1295