

Course Duration: 4 days

Prerequisites: Mechanical design experience; experience with the Windows™ operating system.

Description: SolidWorks Essentials teaches you how to use the SolidWorks mechanical design automation software to build parametric models of parts and assemblies, and how to produce high quality drawings of those parts and assemblies.

The topics covered in this course are:

SolidWorks Basics and the User Interface

What is the SolidWorks Software
Design Intent
File References
Opening Files
The SolidWorks User Interface

Introduction to Sketching

2D Sketching
Stages in the Process
Saving Files
What are We Going to Sketch?
Sketching
Sketch Entities
Basic Sketching
Rules That Govern Sketches
Design Intent
Sketch Relations
Dimensions
Extrude

Basic Part Modeling

Basic Modeling
Terminology
Choosing the Best Profile
Choosing the Sketch Plane
Details of the Part
Boss Feature
Sketching on a Planar Face
Cut Feature
Using the Hole Wizard
View Options
Filleting
Detailing Basics
Drawing Views
Centre Marks
Dimensioning
Changing Parameters

Modeling a Casting or Forging

Case Study: Ratchet
Design Intent
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

Patterning

Why Use Patterns?
Reference Geometry
Linear Pattern
Circular Patterns
Mirror Patterns
Using Pattern Seed Only
Sketch Driven Patterns

Revolved Features

Case Study: Hand wheel
Design Intent
Revolved Features
Building the Rim
Building the Spoke
Edit Material
Mass Properties
File Properties
SolidWorks SimulationXpress
Using the Wizard

Shelling and Ribs

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

Editing: Repairs

Part Editing
Editing Topics
Sketch Issues
FilletXpert
DraftXpert

Editing: Design Changes

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

Configurations of Parts

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

Design Tables and Equations

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

Using Drawings

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

Bottom-Up Assembly Modelling

Case Study: Universal Joint
Bottom-Up Assembly
Creating a New Assembly
Position of the First Component
Feature Manager 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

Using Assemblies

Using Assemblies
Analyzing the Assembly
Checking for Clearances
Changing the Values of Dimensions
Exploded Assemblies
Explode Line Sketch
Bill of Materials
Assembly Drawings

Appendix

Options Settings
Document Templates



Contact Details

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