

Course details:

We recommend you take this course if you are new to SOLIDWORKS. Ideally, you should have some Mechanical design experience & be familiar with the Microsoft Windows operating system. Upon completion of the course, you will be able to confidently create SOLIDWORKS parts, assemblies & drawings.

1: Basics & User Interface

- What is SOLIDWORKS?
- Design intent
- File references
- Opening files
- User Interface

2: Introduction to sketching

- 2D sketching
- Stages in the process
- Saving files
- Sketch entities
- Basic sketching
- Rules that govern sketches
- Design intent
- Sketch relations
- Dimensions
- Extrude
- Sketching guidelines

3: Basic part modelling

- Basic modelling
- 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
- Editing tools
- Detailing basics
- Drawing views
- Centre marks
- Dimensioning
- Changing parameters

4: Modelling a casting or forging

- 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 & paste_

5: Patterning

- Why use patterns?
- Reference geometry
- Linear pattern
- Circular patterns
- Mirror patterns
- Using pattern seed only
- Sketch driven patterns

6: Revolved features

- Case study: handwheel
- Design intent
- Revolved features
- Building the rim
- Building the spoke
- Edit material
- Mass properties
- File properties
- SOLIDWORKS SimulationXpress

7: Shelling & ribs

- Shelling & ribs
- Analysing & adding draft
- Other options for draft
- Shelling
- Ribs
- Full round fillets
- Thin features

8: Editing (Repairs)

- Part editing
- Fixing sketches
- Fixing features
- Sketch issues
- FilletXpert
- DraftXpert



9: Editing (Design changes)

- Part editing
- Design changes
- Information from a model
- Rebuilding tools
- Sketch contours
- Editing with instant 3D

10: Configurations of parts

- Using configurations
- Creating configurations
- Using link values, equations & configure feature
- Equations
- Configure dimension or feature
- Modelling strategies for configurations
- Editing parts that have configurations
- Design library

11: Using drawings

- More about making drawings
- Section view
- Model views
- Broken views
- Detail views
- Projected views
- Annotations
- Drawing sheets & sheet formats
- Define title block

12: Bottom-up assembly modelling

- Case study: universal joint
- Creating a new assembly
- Position of the first component
- Mates
- Feature manager design tree & symbols
- Adding components
- Using part configurations in assemblies
- Creating copies of instances
- Component hiding & transparency
- Component properties
- Sub-assemblies
- Smart mates
- Inserting sub-assemblies
- Pack & go

13: Using assemblies

- Using assemblies
- Analysing the assembly
- Checking for clearances
- Changing the values of dimensions
- Exploded assemblies
- Explode line sketch
- Bill of materials
- Assembly drawings

14: Drawing sheets & views

- Drawing sheets & views
- Terminology
- Drawing views
- Sketching in drawing views
- View settings
- Centermarks & centerlines
- Model edges in the view

15: Dimensions

- Dimensions
- Moving & deleting dimensions
- Dimension properties

16: Annotations

- Adding annotations
- Annotation types
- Blocks

17: Assembly drawing views

- Assembly drawing views
- Creating views of assemblies

18: Sheet formats & templates

- Sheet formats & templates
- Drawing templates
- Properties in the template
- User defined properties
- Customizing a sheet format
- Importing legacy data
- Define title block
- Updating sheet formats

19: Bills of Materials & tables

- Creating & managing a BOM
- Adding a BOM
- Modifying a BOM
- Tabulated BOM
- Design tables in the drawing

20: Performance & display issues

- Performance & display issues
- Large assembly mode
- Lightweight drawings
- Detached drawings
- Display issues in drawing views

21: Drawing References & Comparison

- Reusing a drawing file
- Changing drawing references
- Using DrawCompare
- Design Checker

22: Using DimXpert & TolAnalyst

- DimXpert
- Tolerance types & features
- DimXpert selections
- Settings for DimXpert
- Auto dimension scheme
- Turned part
- Using plus & minus
- DimXpert annotations & drawings
- Using DimXpert manually
- TolAnalyst

