

# SOLIDWORKS



# About Course

Introduces SolidWorks software as a 3-D design tool. Covers creation, retrieval and modification of 3-D and layout drawings using basic SolidWorks commands. Includes skills needed to create parametric models of parts and assemblies; generate dimensioned layouts; and Bill of Materials of those parts and assemblies.

# SOLIDWORKS

## CURRICULUM

### ① INTRODUCTION OF DESIGN CONCEPT AND PROCEDURE

Detailed Concept Of CAD

Need & Importance Of CAD

Overview about Actual Designing In Industries,  
Fundamentals of Design And Its Implementation  
Methods

All Characteristics Of Solid works To User Friendly  
Atmosphere

Superiority Of Solid works With Its Use And  
Demand In Industries

### ② TAKING THE SOLIDWORKS TOUR

System Requirements

Starting Solid works In Windows

The Workbench Concept

Workbenches In Solid works

Adjusting The Solid works Interface

Creating And Managing Workspace

**Graphic User Interface Of Solid works**

**Menu And Toolbars**

**Opening Files**

**Creating New Files**

**Keyboard Shortcuts**

**Selecting/Moving Objects With Mouse**

**Working With Planes**

**Properties Toolbar**

**Changing The Properties**

**Changing The Interface From 3d Modeling To 2d**

**Sketching And Vice-Versa**

**Uses & Description About Feature Manager**

**Design Tree**

**Working With Respect To UCS.**

**Setting Up The Document Options**

## **3 EDITING SKETCHES**

**Sketch Fillet**

**Sketch Chamfer**

**Offsetting Entities**

**Converting Entities**

**Trim**

**Extending Entities**

**Jog**

Mirror

Moving Sketch Entities

Moving Sketch Entities

**SOLIDWORKS**

**INTRODUCTION OF DESIGN CONCEPT AND PROCEDURE**

Copying The Sketch Entities

Rotating Sketch Entities

Scaling Sketch Entities

Stretching Sketch Entities

Modify Sketch

Close Sketch Of Model

Sketch Picture

Area Hatch / Fill

Sketch Patterns

Blocks

Relations

Automatic Relations

Conflicts In Relations

Dimensioning

Dimension Property Manager

Exiting The Sketch

4

## **SKETCHER**

Getting Started With Sketch

Creating Centerlines

**Constructing Lines**  
**Constructing Ellipse**  
**Constructing a Circle**  
**Constructing an Arc**  
**Creating Slots**  
**Creating Polygon**  
**Creating a Parabola**  
**Creating a Spline**  
**Equation Driven Curve**  
**Point**  
**Creating Text**  
**Creating Construction Geometry**  
**Rapid Sketch**  
**Continued..**

**5**

## **PART MODELING**

**Terminologies Used In Part Environment**  
**Entering The Part Module**  
**Choosing The Sketch Plane**  
**Extruding Boss / Base Features**  
**Revolving Boss / Base Features**  
**Creating Sweep Features**  
**Creating Loft Features**  
**Creating Cut Features**  
**Selecting Geometrics In Solid Works**  
**Modeling**

## **6 REFERENCE GEOMETRY**

**Reference Planes**

**Creating New Planes**

**Creating Reference Axes**

**Creating Reference Points**

**Creating Reference Coordinate Systems**

**Editing Reference Geometries**

**Creating Curves**

## **7 PLACED FEATURES**

**Creating Simple Holes**

**Creating Standard Holes Using The Hole Wizard**

**Creating Fillets**

**Creating Chamfers.**

**Creating Shell Features**

**Creating Rib Features**

**Creating Draft Feature**

**Creating Pattern**

## **8 ASSEMBLY MODELING PLACED FEATURES**

**Types Of Assembly Design Approaches**

**Working With Solid Works Assembly Bottom-Up Approach**

**Positioning The Components In Assembly**

**Assembly Mates**

**Standard Mates**  
**Advanced Mates**  
**Mechanical Mates**  
**Smart Mates**  
**Mate Reference**

## **9 SURFACE MODELING**

**Replacing The Assembly Components**  
**Rotating A Component**  
**Moving Components**  
**Detecting Interference**  
**Assembly Pattern**  
**Assembly Mirror**  
**Creating Exploded View**  
**Physical Simulation**  
**Top Down Design**  
**Assembly Performance**  
**Configuration In Assembly Smart Components**  
**Smart Fasteners**  
**Creating Mid-Surface**  
**Replacing Faces**  
**Deleting Faces**  
**Un-Trimming Surface**  
**Creating Knit Surface**  
**Thickening A Surface**  
**Move Faces**



10

# SHEET-METAL MODELING


Fundamental Concepts Of Sheet Metal Design  
Using Sheet Metal Tools Creating Base Flange  
Creating Edge Flange Creating Miter Flange Creating  
Hem Creating Log Creating Break Corner/Corner-Trim  
Creating Closed Corners Creating Rip Creating  
Sketched Bend  
Creating Unfold/Fold Flattening Sheet Metal Bends  
Forming Tools Cross Break  
Welding Corner  
Inserting Corner Trim  
Convert to Sheet Metal  
Lofted Bend  
Vent  
Sheet metal Gusset  
Flatten  
No bend, Insert bend, Rip



 [www.softcrayons.com](http://www.softcrayons.com)

 [info@softcrayons.com](mailto:info@softcrayons.com)

 (+91) 854 501 2345

 693, Sector 14-A, Vasundhara,  
Ghaziabad (U.P.), 201012

   @softcrayons