

FUNDAMENTAL PRODUCTS DESIGN CONTENT

Part I. 2D Drafting Technical and profile sketching

- ✚ Reviewing the technical standards of 2D drawings.
- ✚ The basic commands to create the simple 2D profiles.
- ✚ Creating the 2D drawing from real product.
- ✚ 2D Drawings management.
- ✚ Changing the properties of the 2D profiles, create and manage the layers of profiles.
- ✚ Measuring and modifying the dimensions of the 2D profiles.
- ✚ Installing and managing the printer system.
- ✚ Printing a 2D drawing.
- ✚ Introducing the interface of the software.
- ✚ Manipulating the mouse.
- ✚ Sketcher commands to create the 2D profiles.
- ✚ Create the constraints and dimensioning the 2D profiles.
- ✚ Redefining the 2D profiles in Sketcher environment.
- ✚ Practising the example drawings.
- ✚ Testing the 2D drafting.

Part II. 3D Solid Modeling

- ✚ Creating the new part.
 - ✚ Opening the exist part.
 - ✚ Saving the current file.
 - ✚ Exporting to another format file.
 - ✚ Model tree and the rules to model the 3D part.
1. The basic commands to create a 3D part.
 - ↳ Creating a solid with the Extrude command.
 - ↳ Creating a solid with the Revolve command.
 - ↳ Creating a solid with the Sweep command.
 - ↳ Creating a solid with the Loft command.
 - ↳ Making the holes on the solid parts.
 - ↳ Creating the rib in the solid parts.
 - ↳ Practising.
 2. The Operation feature commands.
 - 2.1. The dress-up feature commands.
 - ↳ How to create the edge fillet.
 - ↳ How to create the variable fillet.
 - ↳ How to create the full round (tritangent fillet).
 - ↳ Drafting the faces of the solid part with draft command.
 - ↳ Creating the thickness of the solid part with the shell command.
 - ↳ Practising.
 - 2.2. The transformation feature commands.
 - ↳ Translating the feature or a part.
 - ↳ Rotating the feature or a part.
 - ↳ Symmetrizing the feature or a part.
 - ↳ Copying the feature or a part with pattern command.
 - ↳ Scaling the part.
 - ↳ Practising.
 - 2.3. The surface – based features.
 - ↳ Cutting a part with split command.
 - ↳ Creating a solid part from a merged surface.
 - ↳ Creating a thickness part from a merged surface.
 - ↳ Replacing the face of a solid part with a surface.
 - ↳ Practising.
 - 2.4. Boolean operations.
 - ↳ Adding two parts together.

- ↳ Subtracting a part with a part.
- ↳ Intersecting two parts.
- ↳ Practising.
- 3. Datum systems.
 - ↳ Creating the datum planes.
 - ↳ Creating the datum points.
 - ↳ Creating the datum curves.
 - ↳ Creating the axis system.
- 4. General practise and testing.
 - ↳ Practising.
 - ↳ Testing.

Part III. Assembly design

- ✚ Creating a new assembly file.
- ✚ Saving the assembly file.
- ✚ Managing the folder of the assembly file.
- ✚ Assembling a part into a assembly file.
- ✚ Creating a sub-assembly product.
- ✚ Creating a part in a assembly product.
- ✚ Modifying a part or sub-assembly in a assembly product.
- ✚ Creating the constraints.
- ✚ Replacing a part and redefining the constraints.
- ✚ Creating the disassembly status for assembly product.
- ✚ Practising and testing.

Part IV. Generating the 2D drawing.

- ✚ Creating the new drawing file.
- ✚ Setting up the 2D drawing option based on the technical standard.
- ✚ Creating the sheet format for the 2D drawing.
- ✚ Creating the general projection view.
- ✚ Creating the section view and the detailed view.
- ✚ Creating the symbols following the technical standard.
- ✚ Generating the dimensions and text.
- ✚ Creating the BOM for assembly products.
- ✚ Add a new products into a drawing.
- ✚ Redefining the products and regenerating the 2D drawing.
- ✚ Practising and testing.

Part V. General practising and final testing.

- ✚ Practising the general product.
- ✚ Final examination.