



TECHHUB SOLUTIONS

...be step ahead in your field

CATIA COURSE CONTENT

INTRODUCTION About CATIA V5R20

APPLICATION WINDOW

About CATIA V5, CATIA V5 Basic Modelling Process, Starting CATIA V5, Menu Bar, Tool Bar, Work Area, Specification Tree, Compass, Prompt Zone, Power Input Mode

SKETCHER

Introduction, Entering Sketcher Workbench, Menus and Toolbars, Finding Tools, Graphics Properties, Message Bar, Sketch Tools, Colors, Smart Pick, Customizing for Sketcher, Sketcher Workbench, Geometry Creation, Sketching Profiles (Lines, Rectangle, Circle, points, Ellipse, Parabola, Hyperbola, Conics,)

EDITING PROFILES

Performing Operation on Profiles (Corner, Chamfer, Trim, Break, Mirror, Translation, Rotation, Scales), Project 3D Element

Projection, Geometric and Dimensional Constraints, Animating Constraints, Setting Units, Sketch Analysis, Hide/Show, Investigating the Model, Parent-child Relationship, Redefining Feature Parameters

SKETCH BASED FEATURE

Part Design Workbench, Part Design terminology, Creating Base Feature, Selecting Base Feature, Features that Add or Remove Material, Creating Pad, Drafted Filleted Pad, Multi Pad, Creating Pocket, Drafted Filleted Pocket, Multi Pocket

Hole Creation Using a Positioning Sketch, Shaft, Creating Groove, Rib, Slot, Stiffener, Solid Combine, Multi section solid, Removed Multi section solid

DRESS UP FEATURES

Fillet, Chamfer, Draft, Shell, Thickness, Thread and Tap, Remove Face, Replace Face

TRANSFORMATION FEATURES

Translation, Rotation, Symmetry, Mirror, User Pattern, Scaling, Rectangular Pattern, Circular Pattern, Affinity, Axis to Axis

REFERENCE ELEMENTS

Reference Point, Reference Lines, Reference Planes

ADVANCED PART MODELING

Surface Based Feature, Split, Thick Surface, Close Surface, Sew Surface, Boolean operations, Inserting a New Body, Inserting Bodies, Boolean operation: Adding Elements, Boolean operation: Removing Elements, Boolean operation: Assembling Bodies, Boolean operation: Union Trim, Boolean operation: Remove Lump, Boolean operation: Intersect

Material Properties, Viewing Material on the Model, Annotation, Creating Annotation Text, Creating Flag Notes, Measure Between, Measure Item, Mass Properties, Measure Inertia

<u>INTRODUCTION TO ASSEMBLY DESIGN</u> Assembly Design Workbench Product Structure Tools, Creating Bottom-up assemblies, Inserting an Existing Geometry, Adding a new components, Replacing a Components, Inserting an Existing Components with Positioning, Multi-Instantiation, Moving the Components
Creating Top-Down assemblies, Copy and Paste a Components, Exploding a Constrained Assembly, Constraints (Fixing, Coincident, Contact.....), Assembly Feature, Split, Hole, Pocket, Remove, Add, Symmetry, Scene
<u>WIREFRAME AND SURFACE DESIGN</u> Introduction to surface Design, 3D Wireframe Geometry, Entering Surface Workbench, Creating Wireframe Geometry (Points, Lines, Axis, Helix, circles.....), Creating Surface Geometry, Extruded Surface, Revolved Surface, Spherical Surface.
Cylindrical Surface, Swept Surface, Offset Surface, Filling Surface, Blended Surface, Multi-Section Surface
<u>OPERATION TOOLBAR</u> Join, Healing, Un trim, Disassemble, Split, Trim, Boundary, Extract Surface, Extrapolate, Transformation Features, Translation, Rotation, Symmetry, Scaling, Affinity, Near Elements
<u>DRAFTING</u> Introduction, Drafting Workbench, Insert an Image, Setting the Drawing Sheet, View Generation, Secondary View, Modifying Views, Generative Dimensions and Balloons Generation, projection view, section view, detail view, exploded view, broken view, breakout view, scaling a view
<u>OVERVIEW</u> Views, View Planes, Creating Multi View Projection, Creating views Using projection Lines, 2D Components, Creating Dimensions, Creating Datum Feature, Annotations, Dress-up Features
<u>REAL TIME RENDERING</u> Overview, Materials, Creating Camera, Defining Light Source, Applying Stickers, Environment, Material Library
<u>DATA EXCHANGES</u> Introduction, Data Exchange in CATIA, STEP, IGES, DXF/DWG
GENERATIVE SHEET METAL DESIGN
ANALYSIS & SIMULATION a) Generative Structural Analysis
MACHINING a) Prismatic machining SPUR Gear Design