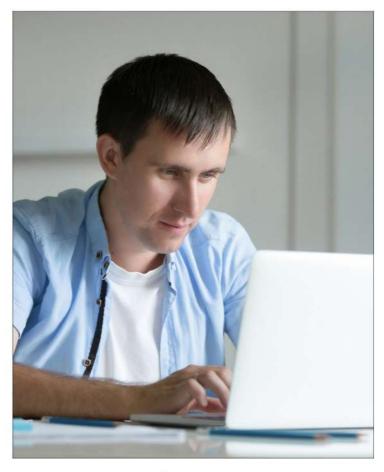
CATIA





e-Learning Course

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ZETLAN TECHNOLOGIES

COURSE MODULES

Introduction to CATIA

- Overview of CAD/CAM/CAE and PLM
- Introduction to CATIA interface
- · Workbenches and navigation
- File management and saving projects

Sketcher Workbench

- Creating and modifying sketches
- Constraints (geometric & dimensional)
- Sketch tools (lines, circles, arcs, splines, etc.)
- Profile creation and modification

Part Design Workbench

- · Creating 3D solid models
- Basic features (Pad, Pocket, Shaft, Rib, Hole, Fillet, Chamfer)
- Advanced features (Boolean operations, Multi-section solid)

Assembly Design Workbench

- Creating and managing assemblies
- Constraints in assemblies (coincidence, contact, angle)
- Exploded views and assembly visualization
- Editing and updating assemblies

5. Surface Design (Generative Shape Design - GSD)

- · Wireframe & surface creation
- Advanced surface modeling techniques
- Operations (Join, Trim, Split, Fillet, Offset, Loft, Sweep)
- Hybrid modeling (solid + surface)

6. Drafting (Drawing) Workbench

- · Creating 2D drawings from 3D models
- · Views (front, top, section, detail, isometric)
- Annotations, dimensns, GD&T (Geometric Dimensiong & Tolerancg)
- Title blocks and sheet formats

7. Sheet Metal Design

- · Creating sheet metal parts
- Bending, flanging, stamping, and punching features
- · Sheet metal unfolding and flat patterns
- DXF export for manufacturing

8. DMU (Digital Mockup) & Kinematics

- · Assembly motion simulation
- Mechanism design and animation
- Clash detection and interference analysis
- · Motion constraints and simulation

9. Ergonomics & Human Modeling (Optional - Industry)

- Human model insertion
- Posture and reach analysis
- Visibility studies

10. Generative Structural Analysis (FEA - Basic Intrductn)

- Introduction to finite element analysis
- · Meshing and boundary conditions
- · Static analysis and result interpretation

11. CATIA Customization & Automation (Advanced Users)

- Macros & scripting in CATIA (VB, Python, CATScript)
- · Creating templates and design automation

12. Industry Applications & Projects

- Real-world projects (Aerospace, Automotive, Consumer Goods)
- · Best practices in product design and manufacturing