Industrial Training in CADD Engineering (Duration 26-Weeks)

Course contents: -

➢ AutoCAD — 04 weeks

- AutoCAD Interface
- Drafting Settings
- Geometry Creation & Modifications
- Layer & Object properties
- Creating & Editing Text
- Dimensions & Dimension Styles
- Parametric Drafting
- Inquiry tools
- Block, W-block, X-attach & X-Ref
- Design centre & Tool Palettes
- Template, Layouts and Printing
- Introduction to 3D.

➢ Autodesk Inventor Professional — 04 weeks

- Sketcher: -
  - Sketch plane concept
  - Sketch creation & modification tools.
  - Geometry & dimensional constraints.
  - Auto constraints and fully defined Sketch
- Part Design: -
  - Create Sketch based features.
  - Modify & Pattern features
  - Work Features.
  - Surface features & Plastic parts
  - fx parameters, Derived components
  - i part, Extract i features & Style Edit
- Assembly Design: -
  - Types, Degree of freedom concept, Place
  - Design centre, create Free move & rotate
  - Constraints, Pattern mirror Design centre,
  - Inspect, Analysis interference
- Drafting: -
  - Generative & Interactive Drafting, Edit Sheet
  - Base & projection Views, Retrieve Dimensions
  - Auto balloons, Part List & printing.
- Presentation: -
  - Create View, Tweak components, Trails
  - Animate exploded view.

➢ SolidWorks — 08 weeks

- Sketcher: -
  - Sketch entities & Sketch tools.
  - Smart Dimensions & Add Relations.
- Part Design: -
  - Boss/Base features & Cut Features.
  - Pattern/ Mirror & Placed Features.
  - Reference Geometries.
  - Materials & Design Table.
  - Equations, Design Table & Configurations.
  - Fastening features and Mold Tools.
- Weldment
  - Structural member, Trim/Extend,
  - Gussets, End cap etc.
- Sheet Metal Design: -
  - Base Flange/Tab, Lofted and Edge flange
  - Hem, Jog, Rip, Sketched bend, Flatten etc.
- Assembly Design: -
  - Insert Components, New Part, New Assembly
  - Mate, Move, Rotate parts & Assembly Features
  - Standard, Advance and Mechanical Mates
  - Design Library, Smart Fasteners and Patterns
  - Interference detection, Exploded View and Motion Study
- Drafting: -
  - Generative and Interactive Drafting
  - Standard 3 View, Model view & Projection view
  - Model Items, Annotations, Balloons, Tables
  - Define Title Block, Templates & Printing
- Project

➢ CATIA

07 weeks

- Sketcher: -
  - Sketch creation & modification tools.
  - Geometry & dimensional constraints.
  - Sketch visualization & sketch analysis.
- Part Design: -
  - Sketch based features.
  - Dress up features, transformation features.
  - Reference elements & Boolean operations.
  - F(x) formula & design table.
  - Material, measurements & measure inertia.
- Wire frame & Surface Design: -
  - Surface creation & Modification tools.
  - Wire frame & Transformation tools
  - Surface based features.
- Generative Shape Design: -
  - Surface Creation i.e. Extrude, Revolve, Offset, Sweep, Fill, Blend, Multi Section etc.
  - Surface Operation i.e. Join-Heal, Split-Trim, Fillets, Extracts, Extrapolate & Transformations
  - Wireframe Poly-line, Projections, Intersections, Circle-Corners, Curves Advance Surfaces, Bump, Wrap Curve & Surface, Shape Morphing
  - BiW Templates Junction, Diabloo & Mating Flange
  - Surface Based Features.
- Generative Sheet Metal Design: -
  - Introduction, Walls, Flanges, Bending
  - Cutting, Stamping, Folding & Unfolding
  - Manufacturing Preparation, Fold/Unfold Views
- Assembly Design: -
  - Bottom up & Top down assembly & Degree of freedom concept
  - Catalogue browser, product structure tools, manipulation, snap & smart move.
  - Assembly constraints, assembly feature, compute clash, space analysis.
    Exploded views, scene creation, B.O.M., & measure inertia.
- Drafting: -
  - Generative & Interactive Drafting, Drawing Standards, Generating orthographic views
  - Geometric dimensions, tolerance & annotation.
  - Generation of balloon, Bill of material, title block & printing.
- Generative Structural Analysis: -
  - Introduction to FEA & FEM
  - Element type, Boundary condition
  - Computation
  - Report generation
- Project: -

➢ Project

03 weeks