

Computer Aided Design (CAD) 2D-3D

Session 1: Getting Started with CAD

1. Starting AutoCAD, AutoCAD's Screen Layout, Working with commands, Opening an Existing Drawing File, Saving your work, AutoCAD's Cartesian workspace.
2. Basic Drawing & Editing Commands: Drawing Lines, Erasing Objects, Drawing Lines with Polar Tracking, Drawing Rectangles.
3. Drawing Circles, Viewing your Drawing, undoing and redoing action.
4. Making your drawing: using object Snap, object snap overrides, Polar tracking setting, object snap tracking, drawing with SNAP and GRID.
5. Selecting objects for editing, moving objects, copying objects, rotating objects, scaling objects, mirroring objects, editing objects with grips.

Session 2: Drawing Organization and Information

1. Creating new Drawings with Templates.
2. What is Layers? Layer Sate, Changing an object's Layer.
3. Advanced object Types: Drawing Arcs, Drawing Polylines, Editing Polylines, Drawing Polygons, and Drawing Ellipses.
4. Creating more complex objects: Advance editing, Trimming and extending, Stretching objects, Creating Fillets and Chamfers, offsetting objects, Creating Arrays of objects.
5. Inserting Blocks: What are Blocks? Inserting block from tool Platters, Inserting blocks using Insert, Inserting Blocks with DesignCenter.

Session 3: Annotating your Drawing

1. Preparing to Print: Setting up a Layout, Printing Concepts, Creating Viewports, Setting up Layouts, Guidelines for Layouts.
2. Printing your Drawing: Printing Layouts, Printing a check plot.
3. Working with Annotations: Adding text in a drawing, Modifying multiline text, Formatting multiline text.
4. Hatching: Adding Radial and Angular Dimensions, Editing Dimensions.

Session 4: Working Effectively with AutoCAD

1. Setting up the Interface, using the Keyboard effectively, working in Multiple Drawings.
2. Using Grips Effectively, Additional Layer Tools.
3. Accurate Positioning: Coordinate Entry, Locating Points with tracking, construction Lines, Placing reference Points.

Session 5: 3D Foundations

1. Why use 3D? Introduction to the 3D modeling workspace, Basic 3D viewing tools, 3D Navigation tools, Introduction to the use coordinates system.
2. Simple Solids: Working with Solid Primitives, solid primitive types, working with composite solids, working with the mesh models.
3. Creating solids & surfaces from 2D objects: Complex 3D Geometry, Extruded Solids and Surfaces, Swept solids and surface, Revolved solids and surface, Lofted solids and surface.
4. Working Drawing with 3D Models: Creating Multiple Viewports, 2D views from 3D solid.