

# Autocad



AUTOCAD 2D & 3D



SevenMentor  
PVT.LTD

## Session 1

### Introduction to Engineering Drawings

- Starting AutoCAD
- History
- Exploring GUI
- Workspaces
- Projections (First & Third angle)
- Co-ordinate systems
- Views (Orthographic, Isometric & Perspective)

## Session 2&3

### Basic Drawing & Editing Commands

- Modify Tools: Erase, Undo, Redo, Explode, Move, Copy, Rotate, Mirror, Array, Align, Scale, Stretch, Lengthen, Trim, Extend, Break, Join, Chamfer, Fillet Working with Commands
- Orthographic Views
- Drawing settings - Units, Limits
- File Management - New, Open, Save, Save as, Close, Exit, Quit

### Mini Project 1 - Orthographic Views

## Session 4

### Drawing Precision in AutoCAD

- Drawing Tools: Multiline, Pline, Spline, Xline, Ray, Wipeout, Revision cloud
- Modify Tools: Mlstyle, Mledit, Pedit, Splinedit
- Grip Editing



## Session 5

### Making Changes in Your Drawing

Display Control: Zoom, Pan, Redraw, Regen, Clean Screen, Steering wheels  
Object Properties: Color, Linetype, Ltscale, Line weight, Properties, Matchprog

## Session 6

### Organizing Your Drawing with Layers

Layer Management  
Adding / Removing Layers  
Layer Status  
New Property Filter  
New Group Filter  
Layer Status Manager  
Plot Control

## Session 7

### Inserting Blocks

Object Selection Methods  
Select, qselect, Filter  
Symbol & BOM Creation: Block, Base, Wblock, Insert

## Session 8

### Setting Up a Layout

Symbol & BOM Creation: Divide, Measure, Attribute  
(Attdef, Attedit, Eattedit, Attdisp, Attdia, Atttext, Eatttext)  
Project: Create a customized Title Block using  
Attributes and save it as a Template



## Session 9

### Setting Up a Layout

Symbol & BOM Creation: Dynamic Block

Parametric Modeling: Geometric Constraint, Dimensional Constraint

Action Recorder, Design Centre, Tool Palette

## Session 10

### Other Topics

Isometric View Drawings

Perspective View Drawings

One Point & Two Point

Project: Isometric View, Perspective View: Building Exterior

(two point perspective), Interior (one point perspective)

## Session 11

### Creating Templates

Annotation Tools: Text, Style, Mtext, Scale text, Spell

Tablestyle, Tabledit Adding / Removing Layers

## Session 12

### Working Effectively with AutoCAD

Hatching utilities - Hatch, Hatchedit, Gradient

Inquiry commands - Id, Dist, List, Radius, Angle, Area, Volume

Fill, Fillmode



## Session 13

### Adding Dimensions

Dimension - Linear, Aligned, Radius, Diameter, Center Mark, Angle  
Arc length, Continuous, Baseline, Tolerance  
Dimension Space, Dimension Break, Inspection,  
Jogged radius, Ordinate dimensions.  
Leader, Qleader

## Session 14

### Annotating Your Drawing

Mleader, Multi leader style, Add leader, Align Leaderlines, Collect Leader  
Dim edit, dimtedit, Dimension Associative, Reassociate  
Dimension Style  
Project 1

## Session 15

### Beyond the Basics

OLE concepts - Olelinks, Olescale, Insertobj  
Hyperlink  
Copy, Copybase, Copylink, Pasteclip, Pastespecial, Pasteblock, Pasteoriginal  
External references - Xref, Xbind, CircularXref, Refedit

## Session 16

### Creating Templates

Transmit, Publish, Publish to Web,  
Introduction to plotting, Layout, Viewports, View  
Page setup, Plot Styles, Plot



## Session 17

### **AutoCAD 3D Drawing and Modelling**

Need of 3rd dimension  
The conventions of AutoCAD  
Co-ordinate systems in 3D  
Types of 3D Models  
Surface Modeling  
Rulesurf, Tabsurf, Revsurf, Edgesurf

## Session 18

### **Creating Solids & Surfaces from 2D Objects**

Surface Modeling  
3Dface, Edge, Pface, 3dPoly, 3dMesh, Plane surf, View Cubic, Vports  
Mini project 9 - Surface Model

## Session 19

### **Advanced Solid Editing**

Advanced Solid Editing Dim edit, dimtedit, Dimension Associative, Reassociate  
Box, Wedge, Cylinder, Cone, Sphere, Torus, Pyramid, Region  
Extrude, Revolve, Union, Subtract

## Session 20

### **Advanced Solid Editing**

Intersect, Interfere, Polysolid, Sweep, Helix, Loft  
Press/Pull, UCS, UCS icon, Dyncamic UCS, UCSman,  
Mini Project 10 - Solid Model



## Session 21

### Advanced Solid Editing

Mesh Primitives, Working with Gizmos, Move, Smooth Object, Refine Mesh, Facetres  
Split Mesh Face, Extrude Face, Convert to Solid, Rotate, Scale, Add / Remove Crease, Convert to Surface  
Mini Project 11 - Mesh Model

## Session 22

### Advanced Solid Editing

Fillet, Chamfer, 3DArray, Mirror3D, Rotate3D, 3Dalign  
Slice, Section, Section Plane, Live section, Section plane jog

## Session 23

### Advanced Solid Editing

Solidedit, Massprop, Solview, Solview, Flatshot  
3Dorbit, 3Dcorbit, 3Dforbit, Camera, Camera, 3Dfly, 3ddistance  
Mini Project 12 - Create a 3d assembly and generate various views

## Session 24

### Working Drawings from 3D Models

Render Settings palette, Understanding lighting principles  
Using lights in Rendering, Point light, Spot light, Distant light  
Light list, Render



## Session 25

### **Working Drawings from 3D Models**

Sun properties, Complete an Assembly drawing, Assign Materials  
Lights, Align the views in Layout,  
Materials, Generate Rendered images for Presentation

## Session 26

### **Working Drawings from 3D Models**

Image, Image attach, Image adjust, Image clip, Image frame  
Image quality, Transparency, Draw order, Export/Import  
Project 3

