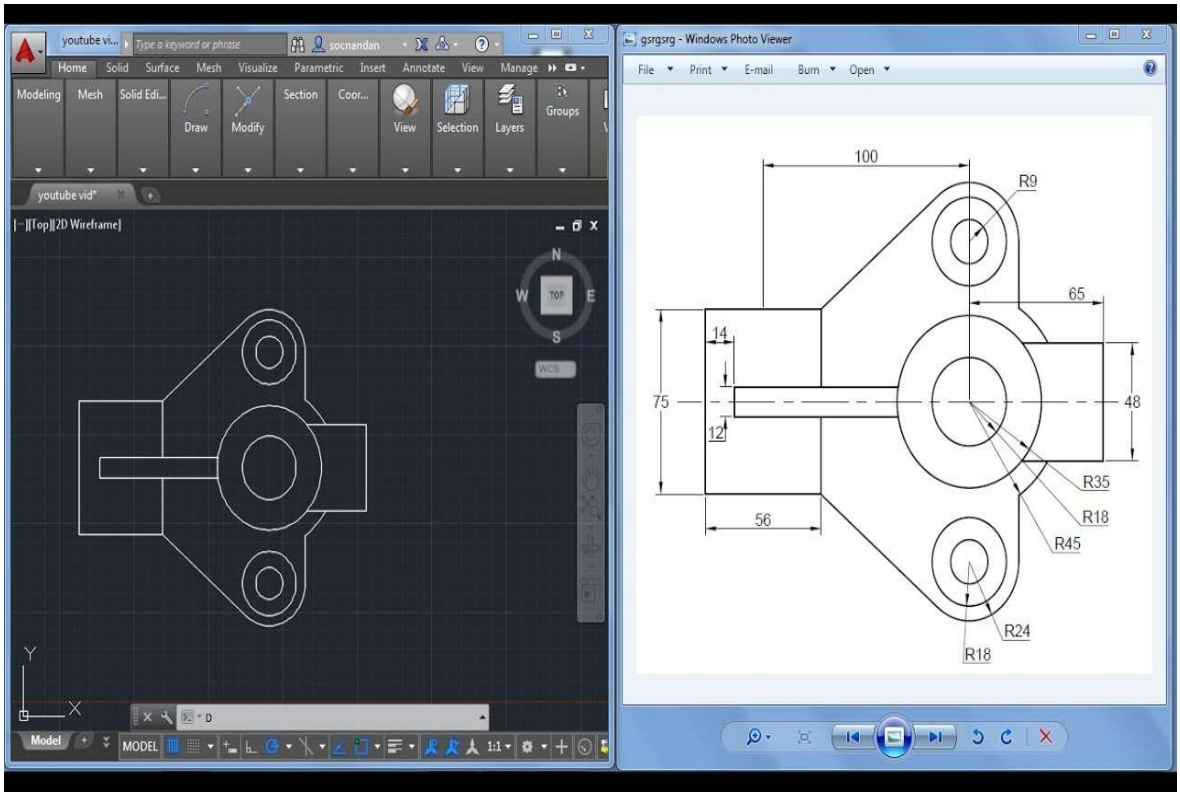
AutoCAD is a commercial computer-aided design (CAD) and drafting software application. Developed and marketed by Autodesk, AutoCAD was **first released in December 1982** as a desktop app running on microcomputers with internal graphics controllers.



AutoCAD syllabus

1: INTRODUCTION TO AUTOCAD

Starting AutoCAD

AutoCAD Screen Components

- Drawing Area
- Command Window

Show command prompting and command input near the crosshairs Drafting Tooltip Appearance

- Drawing Lines in AutoCAD
  - The Close Option
  - The Undo Option
- Invoking tools Using Dynamic INPUT/Command Prompt
- Coordinate Systems
  - Absolute Coordinate System
  - Relative Coordinate System
  - Relative Polar Coordinates
  - Direct Distance Entry
  - Erasing Objects
  - Cancelling and Undoing a Command
- Object Selection Methods
  - Window Selection
  - Window Crossing Method
  - Drawing a Circle
  - BASIC Display Commands
- Setting Units Type and Precision
  - Specifying the Format
  - Specifying the Angle Format
- SETTING the Limits OF A DRAWING

3: STARTING WITH ADVANCED SKETCHING

- Drawing Arcs
- Drawing Rectangles
- Drawing Ellipses
- Drawing Regular Polygon
- Drawing Polylines
- Placing Points
- Drawing Infinite Lines
- Writing a Single Line Text

4: WORKING WITH DRAWING AIDS

- Introduction
- Understanding the Concept and use of LAYERS
  - Advantages of Using Layers
- Working with Layers
  - Creating New Layers
  - Making a Layer Current
  - Controlling the Display of Layers
  - Deleting Layers
- Object Properties
  - Changing the Colour

- Creating a Single Copy
- Offsetting Sketched Objects
- Rotating Sketched Objects
- Scaling the Sketched Objects
- Filleting the Sketches
- Chamfering the Sketches
- Trimming the Sketched Objects
- Extending the Sketched Objects
- Stretching the Sketched Objects
- Lengthening the Sketched Objects

Arraying the Sketched Objects

- Rectangular Array
- Polar Array
- Path Array

Mirroring the Sketched objects

- Text Mirroring

6: EDITING SKETCHED OBJECTS-II

Introduction to Grips

Types of Grips

- Editing a Polyline by Using Grips
- Editing Gripped Objects
- Changing the Properties Using the PROPERTIES Pale
- Matching the Properties of Sketched Objects
- Cycling Through Selection

Managing Contents Using the Design enter

- Autodesk Seek design content Link
- Displaying Drawing Properties
- Basic Display Options
- Redrawing the Screen
- Regenerating Drawings

Zooming Drawings

- Real-time Zooming
- All Option
- Centre Option
- Extents Option
- Dynamic Option
- Previous Option
- Window Option
- Scale Option
- Object Option
- Zoom In and Out

Panning Drawings

- Panning in Real time

7: CREATING TEXT AND TABLES

- Annotative Objects
- Annotation Scale
  - Assigning Annotative Property and Annotation Scales
  - Customizing Annotation Scale
- Multiple Annotation Scales
  - Assigning Multiple Annotation Scales Manually
  - Assigning Multiple Annotation Scales Automatically
- Controlling the Display of Annotative objects
- Creating Text
  - Writing Single Line Text
- Entering Special Characters
- Creating Multiline Text
  - Text Window
  - Text Editor Tab
- Editing Text
  - Editing Text Using the DDEDIT Command
  - Editing Text Using the Properties Palette
  - Modifying the Scale of the Text
- Inserting Table in the Drawing
  - Table style Area
  - Insert options Area
  - Insertion behaviour Area
  - Column and row settings Area
  - Set cell styles Area
- Creating a New Table Style
  - Starting table Area
  - General Area
  - Cell styles Area
  - Setting a Table Style as Current
  - Modifying a Table Style
  - Modifying Tables
  - Substituting Fonts
  - Specifying an Alternate Default Font
  - Creating Text Styles
  - Determining Text Height
  - Creating Annotative text

8: BASIC DIMENSIONING, GEOMETRIC DIMENSIONING, AND TOLERANCING

- Need for Dimensioning
- Dimensioning in AutoCAD
- Fundamental Dimensioning Terms
  - Dimension Line

11: MODEL SPACE VIEWPORTS, PAPER SPACE VIEWPORTS, AND LAYOUTS

- Model Space and Paper Space/Layouts
- Model Space Viewports (Tiled Viewports)
  - Creating Tiled Viewports
- Making a Viewport Current
- Joining Two Adjacent Viewports
- Paper space viewports (Floating Viewports)
  - Creating Floating Viewports
  - Creating Rectangular Viewports
  - Creating Polygonal Viewports
  - Converting an Existing Closed Object into a Viewport
- Temporary Model Space
- Editing Viewports
  - Controlling the Display of Objects in Viewports
  - Locking the Display of Objects in Viewports
  - Controlling the Display of Hidden Lines in Viewports
  - Clipping Existing Viewports
  - Maximizing Viewports
  - Inserting Layouts
  - Inserting a Layout Using the Wizard
  - Defining Page Settings
  - Controlling the Display of Annotative Objects in Viewports

12: PLOTTING DRAWINGS

- Plotting Drawings in AutoCAD
- Plotting Drawings Using the Plot Dialog Box
  - Page setup Area
  - Printer/plotter Area
  - Paper size Area
  - Number of copies Area
  - Plot area
  - Plot offset (origin set to printable area) Area
  - Plot scale Area
  - Plot style table (pen assignments) Area
  - Shaded viewport options Area
  - Plot options Area
  - Preview
- Adding Plotters
  - The Plotter Manager Tool
- Using Plot Styles
  - Adding a Plot Style

13: HATCHING DRAWINGS

- Hatching
  - Hatch Patterns
  - Hatch Boundary
- Hatching Drawings Using the Hatch Tool
- Panels in the Hatch Creation Tab
  - Boundaries Panel
  - Pattern Panel
  - Properties Panel
  - Origin Panel
  - Options Panel
  - Match Properties
  - Setting the Parameters for Gradient Pattern
- Creating Annotative Hatch
- Hatching the Drawing Using the Tool Palettes
  - Drag and Drop Method
  - Select and Place Method
- Hatching Around Text, Dimensions, and Attributes

14: WORKING WITH BLOCKS

- The Concept of Blocks
  - Advantages of Using Blocks
  - Drawing Objects for Blocks
  - Converting Entities into a Block
- Inserting Blocks
- Creating and Inserting Annotative Blocks
  - Block Editor
- Adding Blocks in Tool Palettes
  - Drag and Drop Method
  - Modifying Existing Blocks in the Tool Palettes
  - Layers, Colours, Line types, and Line weights for Blocks
  - Nesting of Blocks
- Creating Drawing Files using the Write Block Dialog Box
  - Exploding Blocks Using the XPLODE Command
  - Renaming Blocks
  - Deleting Unused Blocks
  - Editing Constraints to Blocks