AUTOCAD

Objective: This course covers the essential core topics for working with AutoCAD. The teaching strategy is to start with a few basic tools that enable the student to create and edit a simple drawing, and then continue to develop those tools. More advanced tools are also introduced throughout the course. The intention of the course is to show the most essential tools and concepts. Hands-on exercises throughout the course are given to explore to create 2D and 3D drawings. The exercises are provided in both printed as well as an onscreen format.

Brief Course Contents

Getting Started with AutoCAD

Starting AutoCAD , AutoCAD's User Interface , Working with Commands , AutoCAD's Cartesian Workspace , Opening an Existing Drawing File , Viewing Your Drawing , Saving Your Work.

Basic Drawing & Editing Commands

Drawing Lines , Erasing Objects , Drawing Lines with Polar Tracking , Drawing Rectangles , Drawing Circles , Undo and Redo Actions.

Projects

Creating a Simple Drawing , Create a Simple Drawing , Create Simple Shapes.

Drawing Precision in AutoCAD

Using Running Object Snaps , Using Object Snap Overrides , Polar Tracking at Angles , Object Snap Tracking , Drawing with Snap and Grid (Optional).

Making Changes in Your Drawing

Selecting Objects for Editing , Moving Objects , Copying Objects , Rotating Objects , Scaling Objects , Mirroring Objects , Editing with Grips.

Organizing Your Drawing with Layers

Creating New Drawings With Templates , What are Layers? , Layer States , Changing an Object's Layer.

Advanced Object Types

Drawing Arcs , Drawing Polylines , Editing Polylines , Drawing Polygons , Drawing Ellipses.

Getting Information from Your Drawing

Working with Object Properties , Measuring Objects.

Advanced Editing Commands

Trimming and Extending Objects , Stretching Objects , Creating Fillets and Chamfers , Offsetting Objects , Creating Arrays of Objects.

Inserting Blocks

What are Blocks? ,Inserting Blocks , Working with Dynamic Blocks , Inserting Blocks with DesignCenter.

Setting Up a Layout

Printing Concepts , Working in Layouts , Copying Layouts , Creating Viewports , Guidelines for Layouts.

Printing Your Drawing

Printing Layouts , Printing from the Model Tab.

Text

Working with Annotations , Adding Text in a Drawing , Modifying Multiline Text , Formatting Multiline Text , Adding Notes with Leaders to Your Drawing , Creating Tables , Modifying Tables.

Hatching

Hatching , Editing Hatches.

Adding Dimensions

Dimensioning Concepts , Adding Linear Dimensions , Adding Radial & Angular Dimensions , Editing Dimensions.

Model Space Viewports

Paper Space Viewports , Model Space and Paper Space , Creating Tiled View ports , Making a View port Current , Joining Two Adjacent View-ports , Paper Space Viewports(Floating Viewports) , Editing Viewports , Manipulating the visibility of Viewport Layers.

Understanding External References

External References , Dependent Symbols , Managing External Refernces in a drawing , The Overlay option , Working with the ATTACH Command.

The User Coordinate System

The World Coordinate System , Controlling the Visibility of UCS Icon , Defining the New UCS , Managing the UCS.

Getting Started with 3D

Starting Three Dimensional Modeling in AUTOCAD , Use of Three Dimensional Drawing , Types of 3D Models , 3D Cordinate Systems , TRIM,EXTEND and FILLET Commands in 3D , Setting Thickness and Elevation for the New Objects , Dynamic Viewing of 3D Objects.

Creating Solid Models

What is Solid Modeling , Creating Predefined Solid Primitives , Creating Complex Solid Models by Applying Boolean Operations , Creating Extruded Solids.

Mesh Modeling

Creating Mesh Primitives , Creating Surface Meshes.

Rendering and Animating Designs

Understanding the concept of Rendering , Selecting and Attaching Materials , Understanding Elementary Rendering , Adding Lights to the Design.

Eligibility

10+2 or Diploma in mechanical/architecture/electronics/civil/IT or degree (mechanical/architecture/electronics/civil/IT)