

Certificate Course in 2D AutoCAD

Course Duration: 2 Months (Approx. 40 Sessions, 5 days/week)

Course Overview

The Certificate Course in 2D AutoCAD is designed to provide learners with the essential skills to create, edit, and manage **2D drawings** using AutoCAD. This course focuses on drafting fundamentals, geometric constructions, layers, dimensioning, hatching, and plotting. Students will gain practical knowledge for applications in **engineering, architecture, interior design, and manufacturing**.

Course Objectives

By the end of the course, learners will:

- Understand the **AutoCAD interface, tools, and commands** for 2D drafting.
 - Learn to create and modify **geometric drawings with precision**.
 - Apply **layers, blocks, dimensions, and hatching** in designs.
 - Use **annotation, text, and dimensioning standards** for technical drawings.
 - Gain knowledge of **plotting and printing drawings** to scale.
 - Develop the ability to create **professional 2D drafting projects** for real-world use.
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Course Outcomes

After completing the course, learners will be able to:

- Efficiently use **AutoCAD tools** for professional 2D drafting.
 - Create accurate **engineering and architectural drawings**.
 - Organize drawings using **layers, blocks, and templates**.
 - Produce **scaled drawings** ready for presentation or construction.
 - Apply AutoCAD skills to **academic, industrial, and design-related projects**.
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Course Syllabus

Module 1: Introduction to AutoCAD

- Overview of CAD and AutoCAD
- Navigating the AutoCAD interface
- Understanding coordinate systems (Absolute, Relative, Polar)
- Drawing units and limits setup

Module 2: Basic Drawing & Editing Commands

- Line, Circle, Arc, Polygon, Rectangle, Ellipse
- Erase, Move, Copy, Rotate, Mirror, Offset
- Trim, Extend, Fillet, Chamfer, Array

Module 3: Object Properties & Layers

- Object selection methods
- Properties (Color, Linetype, Lineweight)
- Working with Layers – Creation, Management, Layer States

Module 4: Precision Drafting

- Using OSNAP, ORTHO, Polar Tracking, Object Tracking
- Drawing with accuracy and constraints
- Grips and properties editing

Module 5: Advanced Drawing Tools

- Hatch and Gradient Fill
- Blocks and Wblocks (Creating, Inserting, Editing)
- Groups and Explode
- Measure and Divide tools

Module 6: Text & Dimensioning

- Creating single-line and multiline text (MTEXT)
- Text Styles and Justifications
- Dimensioning principles (Linear, Angular, Radius, Diameter)
- Dimension Styles and Tolerances

Module 7: Layouts, Printing & Plotting

- Paper space vs Model space
- Page setup and Layout creation
- Plotting to scale
- Exporting drawings to PDF

Module 8: Final Project & Review

- Creating a complete 2D drawing (Mechanical part / Building plan / Interior layout)
- Editing, annotation, and finishing touches
- Project review and corrections
- Final submission and presentation

☒ End of Course Deliverable:

A complete **2D project drawing** (Mechanical, Civil, or Architectural) demonstrating use of all tools learned.