

AutoCAD Drafting, Documentation and Productivity Tools

Target Audience

This course is designed for AutoCAD users who already possess basic 2D drafting knowledge and want to enhance their productivity by learning advanced drafting techniques, reusable design components, annotation standards, layouts, data management, and introductory 3D modeling. It is suitable for CAD Engineers, Mechanical Engineers, Civil Engineers, Architects, Designers, Draftsmen, and professionals preparing for production or project documentation roles.

Course Outcomes

After completing this course, participants will be able to:

- Create and manage reusable blocks and dynamic blocks.
- Extract and edit block attributes efficiently.
- Manage External References (Xrefs) and resolve path issues.
- Develop standard drawing templates with title blocks and layers.
- Create and format AutoCAD tables.
- Link AutoCAD tables with Microsoft Excel.
- Customize linetypes, tool palettes, ribbons, and workspace.
- Create professional dimensions and annotations.
- Generate layouts and paper space viewports.
- Create isometric drawings.
- Develop basic 3D models using AutoCAD.

Course Objectives

- Improve drafting productivity using reusable drawing components.
- Standardize drawings through templates and title blocks.
- Learn data-driven drafting using tables and Excel integration.
- Produce professional engineering documentation.
- Customize the AutoCAD interface for faster workflows.
- Introduce automation concepts through tool palettes and plugins.
- Build confidence in basic 3D modeling techniques.

Course Outline

Duration: 40 Hours

The course comprises **40 hours** of instructor-led theory and hands-on labs and is divided into **12 modules**. Each module is followed by practical exercises to reinforce concepts and improve productivity in real-world engineering projects.



Table of Contents

Module 1: Linetypes and Annotation

- Loading Linetypes
- Creating Custom Linetypes
- Annotation Scaling
- Text Styles
- Multiline Text
- Leaders and Multileaders
- Best Annotation Practices

Module 2: Dimensioning and Annotation Standards

- Dimension Styles
- Linear Dimensions
- Aligned Dimensions
- Radius and Diameter Dimensions
- Angular Dimensions
- Editing Dimensions
- Annotation Standards

Module 3: Working with Tables

- Creating Tables
- Table Styles
- Editing Tables
- Formatting Tables
- Cell Properties
- Formula Support
- Table Updates

Module 4: Linking with Excel

- Data Linking
- Importing Excel Data
- Exporting Tables
- Updating Linked Data
- Managing Excel Connections

Module 5: Isometric Drawing

- Isometric Snap
- Isoplane Switching
- Isocircles
- Isometric Dimensions
- Creating Isometric Views

- Editing Isometric Drawings
- Practical Exercises

Module 6: Blocks and Attributes

- Creating Blocks
- Editing Existing Blocks
- Creating Dynamic Blocks
- Creating Block Attributes
- Editing Block Attributes
- Extracting Block Attributes
- Using WBLOCK
- Best Practices for Block Libraries

Module 7: External References (Xrefs)

- Introduction to Xrefs
- Attaching External References
- Overlay vs Attach
- Managing Xref Paths
- Reloading and Detaching Xrefs
- Binding Xrefs
- Resolving Missing References
- Project Collaboration using Xrefs

Module 8: Template Creation

- Creating Drawing Templates
- Standard Layers
- Layer Properties
- Creating Title Blocks
- Saving DWT Templates
- Company CAD Standards

Module 9: Layouts and Viewports

- Paper Space
- Creating Layouts
- Viewports
- Viewport Scale
- Layer Control in Viewports
- Plot Preparation
- Layout Management

Module 10: Plugin Creation and Express Tools

- Introduction to AutoCAD Plugins
- AutoLISP Overview
- Loading LISP Files
- Express Tools Overview
- Detail View Tool
- Productivity Commands
- Workflow Automation Basics

Module 11: Customizing AutoCAD

- Ribbon Customization
- Quick Access Toolbar
- Workspaces
- Tool Palettes
- CUI Editor Basics
- Productivity Settings
- User Profiles

Module 12: Introduction to 3D Modeling

- 3D Workspace
- UCS Fundamentals
- 3D Primitive Solids
- Extrude
- Revolve
- Sweep
- Loft
- Presspull
- Boolean Operations
- Editing 3D Solids
- Visual Styles