

AUTODESK AUTOCAD FUNDAMENTALS



CSG Training Centre | Authorized Autodesk Training Centre | Certipoint Authorized Testing Centre

FOR WHOM

Draftsmen, Engineers, Architects, Designers, Advertisers, New users of AutoCAD

PRE-REQUISITION

Working knowledge of Windows Operating Systems. Working knowledge of basic design/ drafting procedures and terminology (recommended).

DURATION | VERSION

3 DAY(S), Version 2022

COURSE OBJECTIVES

Upon completion of AutoCAD® Fundamentals, will enable you to create, modify, and work with a 2D drawing in the AutoCAD software.

The course begins with learning the basic tools for creating and editing 2D drawings. It then continues to explore the tools used to annotate drawings by adding text, hatching, dimensions, and tables. More advanced tools, such as working with blocks and setting up layouts, are introduced to improve your efficiency with the software. Not every command or option is covered, because the intent is to show the essential tools and concepts. After which, it continues with more sophisticated techniques that extend your mastery of the software - Beyond the basic skill of using a template to understand the process of setting up a template, creating annotation styles, and how to work with external references.

COURSE TOPICS

Getting Started with AutoCAD

1. Starting the Software
2. User Interface
3. Working with Commands
4. Cartesian Workspace
5. Opening an Existing Drawing File
6. Viewing Your Drawing
7. Saving Your Work

Basic Drawing and Editing Commands

1. Drawing Lines
2. Erasing Objects
3. Drawing Vertical and Horizontal Lines
4. Drawing Rectangles
5. Drawing Circles
6. Undo and Redo Actions

COURSE TOPICS

Projects: Creating a Simple Drawing

1. Creating a Simple Drawing
2. Create Simple Shapes

Drawing Precision in AutoCAD

1. Using Running Objects Snaps
2. Using Object Snap Overrides
3. Polar Tracking at Angles
4. Object Snap Tracking
5. Drawing with Snap and Grid

Making Changes in Your Drawing

1. Selecting Objects for Editing
2. Moving Objects
3. Copying Objects
4. Rotating Objects
5. Scaling Objects
6. Mirroring Objects
7. Editing with Grips

Projects: Making Your Drawings More Precise

1. Schematic Project: Electronics Diagram
2. Architectural Project: Landscape
3. Mechanical Project: Using Polar and Tracking
4. Mechanical Project: Surge Protector
5. Mechanical Project: Satellite

Organizing Your Drawing with Layers

1. Creating New Drawings with Template
2. What are Layers
3. Layer States
4. Changing an Object's Layer

Advanced Object Types

1. Drawing Arcs
2. Drawing and Editing Polylines
3. Drawing Splines
4. Drawing Polygons
5. Drawing Ellipses

Analysing Model and Object Properties

1. Working with Object Properties
2. Measuring Objects

Projects: Drawing Organization and Information

1. Architectural Project
2. Mechanical Project
3. Civil Project

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COURSE TOPICS

Advanced Editing Commands

1. Trimming and Extending Objects
2. Stretching Objects
3. Creating Fillets and Chamfers
4. Offsetting Objects
5. Creating Arrays of Objects

Introduction to Blocks

1. What are Blocks
2. Inserting Blocks using the Blocks Palette
3. Inserting Blocks using the Block Palettes
4. Inserting Dynamic Blocks
5. Inserting Blocks using the DesignCenter

Projects: Creating More Complex Objects

1. Mechanical Project 1: Plate
2. Mechanical Project 2: Gasket
3. Mechanical Project 3: Plate
4. Mechanical Project 4: Rocker Arm
5. Architectural Project 1: Floor Plan
6. Architectural Project 2: Floor Plan
7. Civil Project: Parking Lot

Setting Up a Layout

1. Working in Layouts
2. Creating Layouts
3. Creating Layouts Viewports
4. Named Views
5. Guidelines for Layouts

Printing Your Drawing

1. Printing Concepts
2. Printing Layouts
3. Print and Plot Settings

Projects: Preparing to Print

1. Mechanical Project
2. Architectural Project

Text

1. Working with Annotations
2. Adding Text in a Drawing
3. Modifying Multiline Text
4. Formatting Multiline Text
5. Adding Notes with Leaders to Your Drawing
6. Creating Tables
7. Modifying Tables

COURSE TOPICS

Hatching

1. Hatching
2. Editing Hatches

Adding Dimensions

1. Dimensioning Concepts
2. Adding Linear Dimensions
3. Adding Radial and Angular Dimensions
4. Editing Dimensions

Projects: Annotating Your Drawing

1. Mechanical Project
2. Architectural Project 1
3. Architectural Project 2
4. Civil Project

PART 2: Working Effectively with AutoCAD

1. Creating a Custom Workspace
2. Using the Keyboard Effectively
3. Object Creation, Selection and Visibility
4. Working in Multiple Drawings
5. Copying and Pasting Between Drawings
6. Using Grips Effectively
7. Additional Layer Tools

Accurate Positioning

1. Coordinate Entry
2. Locating Points with Tracking
3. Construction Lines
4. Placing Reference Points

Projects: Productivity Tools

1. Schematic Project: Purifier Unit
2. Mechanical Project: 2 Views
3. Architectural/ Civil Project: Formal Garden
4. Mechanical Project: Cover Plate
5. Architectural Project: Addition
6. Mechanical Project: Block
7. Mechanical Project: Plate

Parametric Drawing

1. Working with Constraints
2. Geometric Constraints
3. Dimensional Constraints

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COURSE TOPICS

Working with Blocks

1. Creating Blocks
2. Editing Blocks
3. Removing Unused Elements
4. Adding Blocks to Tool Palettes
5. Modifying Tool Properties in Tool Palettes

Projects: Creating and Organizing Blocks

1. Mechanical Project: Control Panel
2. Architectural Project: Furniture Layout
3. Civil Project: Utility Layout

Creating Templates

1. Why Use Templates
2. Controlling Units Display
3. Creating New Layers
4. Adding Standard Layouts to Templates
5. Saving Templates

Working with Layouts

1. Creating and Using Named Views
2. Advanced Viewport Options
3. Layer Overrides in Viewports
4. Annotative Scale Features

COURSE TOPICS

Annotation Styles

1. Creating Text Styles
2. Creating Dimension Styles
3. Creating Multileader Styles

Projects: Drawing Setup and Utilities

1. Interiors Project
2. Mechanical/ Schematic Project
3. Civil/ Map Project
4. Mechanical Project: Dimension Styles

External References

1. Attaching External References
2. Modifying External References
3. Xref Specific Information

Projects: Drawing

1. ISO A1 Title Block
2. Mechanical Project: Drill Press Base
3. Architectural Project: Office Tower
4. P&ID Project: Oil Lubrication System
5. Civil Project: Warehouse Site