



# **Autodesk Certified Professional in AutoCAD for Design and Drafting**

## **Target Audience**

The Autodesk Certified Professional in AutoCAD for Design and Drafting is ideal for experienced professionals such as architects, engineers, interior designers, and drafters who use AutoCAD to create detailed 2D designs. It is also suitable for educators, trainers, and students seeking to validate their expertise and enhance their credentials. This certification is designed for individuals aiming to showcase their advanced skills in AutoCAD, improve job prospects, and gain recognition in the fields of design, drafting, and documentation.

## **Course Objective**

To equip participants with advanced skills in AutoCAD for creating precise 2D designs, drafting, and documentation, enabling them to efficiently execute industry-standard projects and achieve Autodesk Certified Professional recognition.

## **Course Outcome**

- Proficiency in creating and editing advanced 2D designs using AutoCAD.
- Ability to streamline drafting workflows and improve design efficiency.
- Expertise in generating precise drawings and professional documentation.
- Preparedness to achieve Autodesk Certified Professional certification.
- Enhanced career opportunities and recognition in design and drafting fields.

**Course Outline:** The course comprises **56-hours** of theory and labs and is divided into **14** different chapters. Each chapter will be followed by hands-on lab exercises to reinforce learning and gauge understanding of the topics covered.



## Chapter 1. Introduction to AutoCAD

Installing AutoCAD

Getting Started with AutoCAD

Starting a New Drawing File

Working with Various Components of a Drawing

- Application Menu
- Quick Access Toolbar
- Ribbon
- InfoCenter
- Command Line Window
- ViewCube
- Navigation Bar
- Status Bar

Starting a New Drawing File by using the Create New Drawing dialog box

- Starting a New Drawing file from Scratch
- Starting a New Drawing file by using a Template
- Starting a New Drawing file by using a Wizard

Working with Workspaces

- Switching between Workspaces
- Creating New Workspaces

Working with Sheet Sets

- Creating an Example Sheet Set
- Creating an Existing Drawing Sheet Set

Saving a Drawing File

Opening a Drawing File

Sharing a Drawing File

## Chapter 2. Drawing Tools

Working with Dynamic Input

Working with Draft Settings

Working with Ortho Mode

Working with Polar Tracking



Working with Object Snap

- Working with Object Snap Tracking
- Working with Object Snap Override

Working with Design Center

Working with Tool Palette

## **Chapter 3. Creating Drawings - I**

Setting up Drawing Units

Setting Drawing Limits

Specifying Grid and Snap Settings

Understanding Coordinate Systems

- Cartesian Coordinate System
- Polar Coordinate System

Creating a Drawing

- Drawing a Line
- Drawing a Circle
- Drawing an Arc

Cancelling, Erasing and Restoring Objects

Navigating 2D Drawings

- Zoom
- Zoom Realtime
- Zoom All
- Zoom Window
- Zoom Previous
- Zoom Extents
- Zoom In
- Zoom Out
- Pan

## **Chapter 4. Creating Drawings - II**

Drawing a Rectangle

- Drawing a Rectangle by Specifying Diagonally Opposite Corners
- Drawing a Rectangle by Specifying its Area and One Side
- Drawing a Rectangle by Specifying Dimensions
- Drawing a Rectangle at an Angle
- Drawing a Rectangle with Chamfer



- Drawing a Rectangle with Fillets
- Drawing a Rectangle with Elevation
- Drawing a Rectangle with Thickness
- Drawing a Rectangle with Width

#### Drawing a Polygon

- Inscribed Polygon
- Circumscribed Polygon

#### Drawing a Polyline

- Drawing a Polyline with Line Segments
- Drawing a Polyline with Line and Arc Segments
- Drawing a Polyline with Width
- Drawing a Polyline with Halfwidth

#### Drawing an Ellipse

- Drawing an Ellipse by Using the Axis, End Tool
- Drawing an Ellipse by Using the Center Tool
- Drawing an Elliptical Arc

#### Drawing a Spline

- Drawing a Spline by Using the Spline Fit Tool
- Drawing a Spline by Using the Spline CV Tool

#### Drawing Donuts

#### Drawing Construction and Ray lines

- Drawing Construction Lines
- Drawing Ray Lines

#### Drawing Points and Defining Point Style/Size

- Drawing Reference Points
- Defining the Point Style and Point Size

#### Creating the Hatches

#### Creating the Gradients

#### Define boundaries for creating hatches

## Chapter 5. Working with Layers

#### Assign and Manage layer Properties

- Creating a New Layer
- Setting the Current Layer
- Assigning Color to a Layer
- Assigning Linetype to a Layer
- Assigning Lineweight to a Layer
- Turning a Layer On or Off

- Freezing a Layer
- Locking or Unlocking a Layer
- Deleting a Layer
- Setting Transparency of a Layer
- Restricting a Layer from Plotting
- Freezing a Layer in New Viewports
- Freezing the New Layer in All Viewports
- Toggle Override Highlight

Apply layer property overrides in viewports

Create and manage layer filters

Determine the origin of xref layers

## Chapter 6. Modifying and Editing Drawings - I

Working with Object Selection Methods

- Window Selection Method
- Cross Window Selection Method

Invoking a Selection Method within a Command

- Window Selection Method
- Cross Window Selection Method
- All Selection Method
- Cross Polygon Selection Method
- Window Polygon Selection Method
- Fence Selection Method
- Last Selection Method

Trimming Drawing Entities

Extending Drawing Entities

Define and edit associative arrays

- Creating a Rectangular Array
- Creating a Polar/Circular Array
- Creating a Path Array

Mirroring Drawing Entities

Filleting Drawing Entities

Square Corners (Zero Radius)

Chamfering Drawing Entities

- Creating a Chamfer Using the Distance Distance Method
- Creating a Chamfer Using the Angle Distance Method

Offsetting Drawing Entities

Moving Drawing Objects



Copying Drawing Objects

Rotating Drawing Objects

Scaling Drawing Objects

Stretching Drawing Objects

Lengthening Drawing Objects

- Lengthening an Object by Specifying Delta Value
- Lengthening an Object by Specifying Percentage
- Lengthening an Object by Specifying Total Length
- Lengthening an Object by Dragging

Erasing Drawing Objects

Break and Join In AutoCAD

Explode AutoCAD

Group/UnGroup in AutoCAD

Creating 2D Isometric Drawings

- Switch between standard isometric planes (ISODRAFT)
- Use drawing and tracking tools that align with the corresponding isometric axes

## **Chapter 7. Working with Dimensions and Dimension Styles**

Working with Components of a Dimension

Creating a New Dimension Style

Modifying an Existing Dimension Style

Overriding a Dimension Style

Applying Dimensions

- Applying a Linear Dimension
- Applying an Aligned Dimension
- Applying an Angular Dimension
- Applying an Arc Length Dimension
- Applying a Radius Dimension
- Applying a Diameter Dimension
- Applying a Jogged Radius Dimension
- Applying a Jogged Linear Dimension
- Applying an Ordinate Dimension
- Applying Baseline Dimensions
- Applying Continue Dimensions
- Applying Multiple Dimensions

AutoCAD Multileader Operations

- Multileader Style





- Multileader Operations
- Block Multileader

## Chapter 8. Editing Dimensions and Adding Text

Editing Dimensions by using DIMEDIT Command

- Specifying the New Dimension Text/Value
- Rotating the Dimension Text
- Restoring the Dimension Text to Original Position
- Changing the Oblique Angle of Extension Lines

Editing Dimensions by using DIMTEDIT Command

Editing Dimensions by using DDEDIT Command

Editing Dimensions by using Dimension Grips

- Changing the Position of Dimension Text
- Changing the Space between Dimension Line and Object
- Changing the Position of Extension Lines

Editing Dimensions by using PROPERTIES Palette

Editing Dimensions by using Editing Tools

- Editing Dimensions by using the Trim Tool
- Editing Dimensions by using the Extend Tool
- Editing Dimensions by using the Stretch Tool

AutoCAD Table

- Create and manage table styles
- Create and modify tables

Adding Text/Notes

- Creating and Modifying a Text Style
- Adding Text by using the Single Line Tool
- Adding Text by using the Multiline Text Tool

Editing Single line and Multiline Text

Converting Single line Text to Multiline Text

## Chapter 9. Modifying and Editing Drawings - II

Access modify commands using Grips

- Stretching Objects by using Grips
- Moving Objects by using Grips



- Rotating Objects by using Grips
- Scaling Objects by using Grips
- Mirroring Objects by using Grips

Editing Objects by using PROPERTIES Palette

Edit geometry using multiple grips

Edit using dynamic input and multifunctional grips

Matching Properties of an Object

Identifying Coordinates of a Point

Use multiple coordinate entry methods

Access and use the Clipboard

Create and edit objects using object snaps

Create and edit objects using dynamic input

## **Chapter 10. Working with Blocks**

Creating a Block

Inserting a Block into a Drawing

Creating a WBlock

Inserting a WBlock into a Drawing

Editing a Block

Making a Dynamic Block

Access blocks and block libraries

## **Chapter 11. Drawing Management**

Manage user coordinate system

Analyze and query values of geometric objects

Analyze quantities of blocks in a drawing

Perform drawing maintenance

Use the purge tools to manage content

Use the Drawing Recovery Manager

Create and manage drawing scales

Add and manage scales assigned to annotative objects

## **Chapter 12. Working with Layouts**

Getting Started with Paper Space/Layout

Understanding Different Components of a Layout

Setting up the Sheet/Paper Size for a Layout

Adding, Renaming, and Deleting a Layout





## Working with Viewports

- Editing a Viewport
- Deleting a Viewport
- Creating Viewports

## Accessing the Model Space within a Viewport

### Clipping a Viewport

### Locking the Object Scale in a Viewport

### Controlling the Display of Objects in a Viewport

### Controlling Layers Properties for Viewports

- Viewport Freeze
- Viewport Color

## Add Title Block to Layout

## Switching to the Model Space

## Creating Viewports in the Model Space

- Viewport Configuration
- Joining Two Viewports
- Restoring Viewports

## Define and manage a sheet list

## Create a new sheet within a sheet set

## Modify sheet and sheet set properties

## Configure an Electronic Transmittal package

## Configure and apply named page setups

## Chapter 13. Printing and Plotting

### Configuring a Plotter (Output Device)

### Creating a Plot Style

### Setting up a Default Plot Style

### Plotting a Drawing

## Chapter 14. Collaboration

### Collaborate and use shared files

### Create and manage Traces

### Compare objects between drawings

### Manage xref types

### Manage image and underlay frames

### Create and manage PDF imports

### Create and manage tables using data links

### Display dynamic data using fields