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