AutoCAD: Essentials Course Outline

Overview
This 3-day AutoCAD®: Essentials class is designed for those using AutoCAD® or AutoCAD LT® with a Windows operating system. The objective of AutoCAD: Essentials is to enable students to create basic 2D drawings in the AutoCAD software.

This course will cover the essential core topics for working with the AutoCAD software. The course will teach you some basic tools that enable the student to create and edit simple 2D drawings, and then continue to develop with those tools to create more complex drawings. The topics you will learn during this course will help you gain the necessary knowledge and skills to become a more effective CAD user such as:

- Understanding the AutoCAD workspace and user interface.
- Using basic drawing, editing, and viewing tools.
- Organizing drawing objects on layers.
- Inserting reusable symbols (blocks).
- Preparing a layout to be plotted.
- Adding text, hatching, and dimensions.

Prerequisites:
Students will need a working knowledge of basic design or drafting procedures and terminology and a working knowledge of the Windows operating system.

Completion of the Course:
At the completion of this course the student will have a good working knowledge of the AutoCAD system and will be well on their way to begin creating standard 2D drawings.

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Course Contents

Chapter 1: Getting Started with AutoCAD
1.1 Starting the Software
1.2 User Interface
1.3 Working with Commands
1.4 Cartesian Workspace
1.5 Opening an Existing Drawing File
1.6 Viewing Your Drawing
1.7 Saving Your Work

Chapter 2: Basic Drawing and Editing Commands
2.1 Drawing Lines
2.2 Erasing Objects
2.3 Drawing Vertical and Horizontal Lines
2.4 Drawing Rectangles
2.5 Drawing Circles
2.6 Undo and Redo Actions

Chapter 3: Projects: Creating a Simple Drawing
3.1 Create a Simple Drawing
3.2 Create Simple Shapes

Chapter 4: Drawing Precision in AutoCAD
4.1 Using Running Object Snaps
4.2 Using Object Snap Overrides
4.3 Polar Tracking at Angles
4.4 Object Snap Tracking
4.5 (Optional) Drawing with Snap and Grid

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Chapter 5: Making Changes in Your Drawing
5.1 Selecting Objects for Editing
5.2 Moving Objects
5.3 Copying
5.4 Rotating Objects
5.5 Scaling Objects
5.6 Mirroring Objects
5.7 Editing with Grips

Chapter 6: Projects: Making Your Drawings More Precise
6.1 Schematic Project: Electronics Diagram
6.2 Architectural Project: Landscape
6.3 Mechanical Project: Using Polar and Tracking
6.4 Mechanical Project: Surge Protector
6.5 Mechanical Project: Satellite

Chapter 7: Organizing Your Drawing with Layers
7.1 Creating New Drawings with Templates
7.2 What are Layers?
7.3 Layer States
7.4 Changing an Object's Layer

Chapter 8: Advanced Object Types
8.1 Drawing Arcs
8.2 Drawing Polylines
8.3 Editing Polylines
8.4 Drawing Polygons
8.5 Drawing Ellipses

Chapter 9: Analyzing Model and Object Properties
9.1 Working with Object Properties
9.2 Measuring Objects

Chapter 10: Projects: Drawing Organization and Information
10.1 Architectural Project
10.2 Mechanical Project
10.3 Civil Project

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Chapter 11: Advanced Editing Commands
11.1 Trimming and Extending Objects
11.2 Stretching Objects
11.3 Creating Fillets and Chamfers
11.4 Offsetting Objects
11.5 Creating Arrays of Objects

Chapter 12: Inserting Blocks
12.1 What are Blocks?
12.2 Working with Dynamic Blocks
12.3 Inserting Blocks
12.4 Inserting Blocks using the Tool Palettes
12.5 Inserting Blocks using the DesignCenter

Chapter 13: Projects: Creating More Complex Objects
13.1 Mechanical Project 1: Plate
13.2 Mechanical Project 2: Gasket
13.3 Mechanical Project 3: Plate
13.4 Mechanical Project 4: Rocker Arm
13.5 Architectural Project 1: Floor Plan
13.6 Architectural Project 2: Floor Plan
13.7 Civil Project: Parking Lot

Chapter 14: Setting Up a Layout
14.1 Working in Layouts
14.2 Creating Layouts
14.3 Creating Layout Viewports
14.4 Named Views
14.5 Guidelines for Layouts

Chapter 15: Printing Your Drawing
15.1 Printing Concepts
15.2 Printing Layouts
15.3 Print and Plot Settings

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Chapter 16: Projects: Preparing to Print
16.1 Mechanical Project
16.2 Architectural Project

Chapter 17: Text
17.1 Working with Annotations
17.2 Adding Text in a Drawing
17.3 Modifying Multiline Text
17.4 Formatting Multiline Text
17.5 Adding Notes with Leaders to Your Drawing
17.6 Creating Tables
17.7 Modifying Tables

Chapter 18: Hatching
18.1 Hatching
18.2 Editing Hatches

Chapter 19: Adding Dimensions
19.1 Dimensioning Concepts
19.2 Adding Linear Dimensions
19.3 Adding Radial and Angular Dimensions
19.4 Editing Dimensions

Chapter 20: Projects: Annotating Your Drawing
20.1 Mechanical Project
20.2 Architectural Project 1
20.3 Architectural Project 2
20.4 Civil Project