

## Technical Education Services

### AutoCAD®/AutoCAD LT® Fundamentals



Course Length: 5 days

The objective of AutoCAD/AutoCAD LT Fundamentals is to enable students to create a basic 2D drawing in the AutoCAD software. Even at this fundamental level, the AutoCAD software is one of the most sophisticated computer applications that you are likely to encounter. Therefore learning to use it can be challenging. To make the process easier and provide flexibility for instructors and students, the training guide is divided into two parts that can be taken independently.

Part 1 (three days) covers the essential core topics for working with the AutoCAD software. The teaching strategy is to start with a few basic tools that enable the student to create and edit a simple drawing, and then continue to develop those tools. More advanced tools are also introduced throughout the training guide. Not every command or option is covered, because the intent is to show the most essential tools and concepts, 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.

For the current course  
schedule and to register  
for this course:

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Phone: 1300 667 263



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Part 2 (two days) continues with more sophisticated techniques that extend your mastery of the program. For example, here you go beyond the basic skill of inserting a block to learning how to create blocks, and beyond the basic skill of using a template to understand the process of setting up a template. You learn skills such as:

- Using more advanced editing and construction techniques.
- Adding parametric constraints to objects.
- Creating local and global blocks.
- Setting up layers, styles, and templates.
- Using advanced plotting and publishing options.

### Prerequisites:

- A working knowledge of basic design/drafting procedures and terminology.
- A working knowledge of your operating system.

## Table of Contents

### AutoCAD/AutoCAD LT Fundamentals Part 1

#### DAY 1

#### 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

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### Chapter 2: Basic Drawing & Editing Commands

- 2.1 Drawing Lines
- 2.2 Erasing Objects
- 2.3 Drawing Lines with Polar Tracking
- 2.4 Drawing Rectangles
- 2.5 Drawing Circle
- 2.6 Undo and Redo Action

### Chapter 3: Projects - Creating a Simple Drawing

- 3.1 Create a Simple Drawing
- 3.2 Create Simple Shapes

### Chapter 4: Drawing Precision in AutoCAD Fields

- 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 Drawing with Snap and Grid (Optional)

### Chapter 5: Making Changes in Your Drawing

- 5.1 Selecting Objects for Editing
- 5.2 Moving Objects
- 5.3 Copying Objects
- 5.4 Rotating Objects
- 5.5 Scaling Objects
- 5.6 Mirroring Objects
- 5.7 Editing with Grips

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### Chapter 6: Projects - Making Your Drawings More Precise

- 6.1 Schematic Project: Electronics Diagram
- 6.2 Architectural Project: Landscape
- 6.3 Mechanical Project (with Polar & Tracking)
- 6.4 Mechanical Project: Surge Protector
- 6.5 Mechanical Project: Satellite

### DAY 2

### 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: Getting Information from Your Drawing

- 9.1 Working with Object Properties
- 9.2 Measuring Objects

### Chapter 10: Projects - Drawing Organization & 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 Inserting Blocks
- 12.3 Working with Dynamic Blocks
- 12.4 Inserting Blocks with DesignCenter
- 12.5 Inserting Blocks with Content Explorer

## 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

## DAY 3

## Chapter 14: Setting Up a Layout

- 14.1 Printing Concepts
- 14.2 Working in Layouts
- 14.3 Copying Layouts
- 14.4 Creating Viewports
- 14.5 Guidelines for Layouts

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### Chapter 15: Printing Your Drawing

- 15.1 Printing Layouts
- 15.2 Printing from the Model Tab

### 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 & 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

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Appendix A Skills Assessment Part 1

Appendix B AutoCAD Certified Professional Exam Objectives

## AutoCAD/AutoCAD LT Fundamentals Part 2 DAY 1

### Chapter 1: Working Effectively with AutoCAD

- 1.1 Creating a Custom Workspace
- 1.2 Using the Keyboard Effectively
- 1.3 Object Creation, Selection, and Visibility
- 1.4 Working in Multiple Drawings
- 1.5 Copying and Pasting Between Drawings
- 1.6 Using Grips Effectively
- 1.7 Additional Layer Tools

### Chapter 2: Accurate Positioning

- 2.1 Coordinate Entry
- 2.2 Locating Points with Tracking
- 2.3 Construction Lines
- 2.4 Placing Reference Points

### Chapter 3: Projects - Productivity Tools

- 3.1 Schematic Project - Purifier Unit
- 3.2 Mechanical Project - 2 Views
- 3.3 Architectural/Civil Project - Formal Garden
- 3.4 Mechanical Project - Cover Plate
- 3.5 Architectural Project - Addition
- 3.6 Mechanical Project - Block
- 3.7 Mechanical Project - Plate

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### Chapter 4: Parametric Drawing

- 4.1 Working with Constraints
- 4.2 Geometric Constraints
- 4.3 Dimensional Constraints

### Chapter 5: Working with Blocks

- 5.1 Creating Blocks
- 5.2 Editing Blocks
- 5.3 Removing Unused Elements
- 5.4 Adding Blocks to Tool Palettes
- 5.5 Modifying Tool Properties in Tool Palettes

### Chapter 6: Projects - Creating and Organizing Blocks

- 6.1 Mechanical Project - Control Panel
- 6.2 Architectural Project - Furniture Layout
- 6.3 Civil Project - Utility Layout

## Day 2

### Chapter 7: Creating Templates

- 7.1 Why Use Templates?
- 7.2 Controlling Units Display
- 7.3 Creating New Layers
- 7.4 Adding Standard Layouts to Templates
- 7.5 Saving Templates

### Chapter 8: Advanced Layouts

- 8.1 Quick View Layouts
- 8.2 Creating and Using Named Views
- 8.3 Advanced Viewport Options
- 8.4 Layer Overrides in Viewports
- 8.5 Additional Annotative Scale Features



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### Chapter 9: Annotation Styles

- 9.1 Creating Text Styles
- 9.2 Creating Dimension Styles
- 9.3 Creating Multileader Styles

### Chapter 10: Projects - Drawing Setup and Utilities

- 10.1 Interiors Project
- 10.2 Mechanical/Schematic Project
- 10.3 Civil/Map Project
- 10.4 Mechanical Project - Dimension Styles

### Chapter 11: External References

- 11.1 Attaching External References
- 11.2 Modifying External References
- 11.3 Xref Specific Information

### Chapter 12: Projects - Drawing

- 12.1 D-sized Title Block (36x24)
- 12.2 Mechanical Project - Drill Press Base
- 12.3 Architectural Project - Office Tower
- 12.4 P&ID Project - Oil Lubrication System
- 12.5 Civil Project - Warehouse Site

### Appendix A Optional Topics

- A.1 Using QuickCalc
- A.2 Additional Zoom Commands
- A.3 Advanced Object Selection
- A.4 Additional Text Tools
- A.5 Additional Dimensioning Tools
- A.6 Creating Boundaries and Regions
- A.7 Modifying Length



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Appendix B Skills Assessment Part 2

Appendix C AutoCAD Certified Professional Exam Objectives

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### Cancellation Policy

The following cancellation policy shall apply to all training and consulting engagements including customised training solutions:

Redstack reserves the right to reschedule or cancel the date, time and location of its class at any time. In the event that a Training Class is cancelled by Redstack, Customer is entitled to a full refund. Redstack shall not be responsible for any other loss incurred by Customer as a result of a cancellation or reschedule.

For Customer cancellations when written notice is received (i) at least ten (10) business days in advance of the class, Customer is entitled to a full refund of its payment or reschedule enrolment, (ii) less than ten (10) business days, Customer shall not be entitled to a refund, but shall receive a class credit to be used within three (3) months of the date of the original class.

Student substitutions are acceptable with at least two (2) days prior notice to the class, provided substitution meets course prerequisites and is approved by Redstack

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