

AutoCAD Mechanical Fundamentals Course Outline

Duration: 1½ months

Overview

CAD Course in Mechanical is a 1½ Months short term certificate program. Individuals will learn advanced concepts of AutoCAD and overview of how to bring electrical design productivity to new levels as compared to using traditional 2D drafting techniques.

AutoCAD Mechanical fundamentals course will enable engineers to take maximum advantage of the Autodesk AutoCAD 2D and 3D features along with overview of Autodesk AutoCAD Mechanical that basically improve the overall electrical CAD drafting productivity.

Prerequisites

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

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

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 Mechanical Project: Using Polar and Tracking
- 6.2 Mechanical Project: Surge Protector
- 6.3 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: Advanced Editing Commands

- 10.1 Trimming and Extending Objects
- 10.2 Stretching Objects
- 10.3 Creating Fillets and Chamfers
- 10.4 Offsetting Objects
- 10.5 Creating Arrays of Objects

Chapter 11: Inserting Blocks

- 11.1 What are Blocks?
- 11.2 Working with Dynamic Blocks
- 11.3 Inserting Blocks
- 11.4 Inserting Blocks using the Tool Palettes

Chapter 12: Projects: Creating More Complex Objects

- 12.1 Mechanical Project 1: Plate

- 12.2 Mechanical Project 2: Gasket
- 12.3 Mechanical Project 3: Plate
- 12.4 Mechanical Project 4: Rocker Arm

Chapter 13: Setting Up a Layout

- 13.1 Working in Layouts
- 13.2 Creating Layouts
- 13.3 Creating Layout Viewports
- 13.4 Guidelines for Layouts

Chapter 14: Printing Your Drawing

- 14.1 Printing Concepts
- 14.2 Printing Layouts
- 14.3 Print and Plot Settings

Chapter 15: Projects: Preparing to Print

- 15.1 Mechanical Project

Chapter 16:

- 16.1 Working with Annotations
- 16.2 Adding Text in a Drawing
- 16.3 Modifying Multiline Text
- 16.4 Formatting Multiline Text
- 16.5 Adding Notes with Leaders to Your Drawing
- 16.6 Creating Tables
- 16.7 Modifying Tables

Chapter 17: Hatching

- 17.1 Hatching
- 17.2 Editing Hatches

Chapter 18: Adding Dimensions

- 18.1 Dimensioning Concepts
- 18.2 Adding Linear Dimensions
- 18.3 Adding Radial and Angular Dimensions
- 18.4 Editing Dimensions

Chapter 19: Projects: Annotating Your Drawing

- 19.1 Final Mechanical Project

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