



AutoCAD® 2007 Updates Tutorial Series

Computer Based Training

What You Will Learn:

*Topics covered on this
CBT include:*

Prerequisites:

Users should have completed the AutoCAD 2006 Series CBT or posses the equivalent hands-on experience.

Requirements:

Windows XP
Internet Explorer
Browser
Flash plugin
DVD Drive
Pointing device

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In this update DVD, Matt Murphy familiarizes us with the new 3D tools in AutoCAD 2007. This 140 lesson update is for experienced 2006 users.

The AutoCAD 2007 Interface

An Overview of AutoCAD 2007
New Feature Workshop
Initial or Default Startup Screen
Opening and Anchoring Palettes
New Dashboard Palette
The Seven Control Panels of the Dashboard
Linking Control Panels to Tool Palette Groups
Model and Layout Tabs
Changes to the Grid Display
Changes to Workspace
Changes to Background and Interface Colors
The 3D Modeling Tab
Performance and Personal Settings
Dynamic User Coordinate System - DUCS
Using the New Template Files

Constructing Solid Primitives

Solid Shapes and Object Types
Creating and Editing a Solid Box
Creating and Editing a Solid Wedge
Creating and Editing a Solid Cone
Creating and Editing a Solid Sphere
Creating and Editing a Solid Cylinder
Creating and Editing a Solid Torus
Creating and Editing a Solid Pyramid
Creating and Editing a Polysolid

Converting 2D Objects to Solids or Surfaces

Creating a 2D Surface from Objects with Thickness
Converting a 2D Closed Objects into a Solid
Converting a 2D Object with Thickness from Surfaces into a Solid

Coordinate Systems

Understanding the Need for a Cartesian Coordinate System
Using and Changing Coordinate Systems and Locations
Changing the Default Coordinate System to a User Coordinate System - UCS
Changing the Appearance of the Coordinate System Icon

3D Modeling Overview

The Benefits of 3D
One Model - Multiple Representations

Displaying 3D Models

View a 3D Model - Constrained Orbit
View a 3D Model - Free Orbit
View a 3D Model - Continuous Orbit
Using Preset Display Modes
Multiple Views with Viewports
Creating and Restoring Named Views

Creating Models From 2D Geometry

Advantages of Converting 2D Geometry into Solids and Surfaces
Working with Open and Closed Objects
Converting Open and Closed Polylines and Lines into Solids and Surfaces
Best Practices for Converting Objects into Solids or Surfaces
Creating a 2D Profile to Make a 3D Solid
Creating a 3D Solid Using Extrude Command
Creating a 3D Solid Using Presspull Command
Creating a 3D Solid or Surface Using the Revolve Command
Creating a 3D Solid Using the Sweep Command
Creating a 3D Solid Using the Loft Command
Creating a 2D Planar Surface from Polylines

Composite Solids

Why Create Composite Solids?
Using Boolean Operations to Create a Unified Solid
Using the Union Boolean Operation to Create a Unified Solid
Using the Subtract Boolean Operation to Create a Unified Solid
Using the Intersection Boolean Operation to Create a Unified Solid

Changing the Coordinate System Dynamically

Using the Dynamic UCS - DUCS
Acquiring Points in 3D Space
Coordinate Filters

UCS Coordinate Orientation

- Setting and Using the World Coordinate System
- Setting and Using a Named UCS
- Setting and Using the Previous Face as a Coordinate System
- Object as a Coordinate System
- View as a Coordinate System
- Z Axis as a Coordinate System
- Setting and 3 Points as a Coordinate System
- Setting the X, Y and Z of a Coordinate System
- Creating a New UCS to Create New Geometry

Editing the Faces on your Models

- Using the Extrude Face Command to Edit a Solid's Face
- Using the Move Face Command to Edit a Solid's Face
- Using Offset Faces to Move a Solid's Face
- Using Delete Faces to Remove a Solid's Face
- Using Rotate Face to Modify a Solid's Mass
- Using Taper Face to Modify a Solid's Mass
- Changing the Color of a Face on a Solid
- Using Copy Face Command

Extracting Geometry from Solid Models

- Exploding a Solid into Faces

Properties of 3D Objects

- Verifying Solids as AutoCAD Geometry
- Checking Solids for Interference
- Determining the Mass Properties of Solids
- Changing the Face Color of a Solid
- Changing the Edge Color of a Solid

Cameras and Views

- Using Cameras to Control Views of My Models
- Creating Cameras to Control Views of My Model
- Placing Cameras Accurately
- Using Named Views with Cameras
- Managing Cameras and Views with Dashboard
- Adding a Background to a Camera View

Applying Lights to your Model

- Using Lights for Realistic 3D Models
- Accessing Lights from the Dashboard
- Using Sun Light Controls
- Using 3 Different Light Types
- Creating and Using Point Lights
- Creating and Using Spot Lights
- Creating and Using Distant Lights
- Editing and Modifying Lights

Rendering your Model

- What is a Rendering?
- Using the 5 Rendering Presets
- Adjusting Rendering Settings
- Render to a File

Editing your Models

- Modifying Objects with Grips and Dynamic Input
- Modifying Composite Solids with Grips and Dynamic Input
- Modifying Unified Solids with Grips and Dynamic Input
- Modifying a Solid Using Face Grips
- Modifying a Solid Using the Move Grip Tool
- Using the Fillet Command on a Solid
- Using the Chamfer Command on a Solid
- Using the Slice Command on a Solid
- Using the 3D Move Command on a Solid
- Using the 3D Rotate Command on a Solid

Modifying Models

- Creating a Hollow Shell of a Solid
- Creating an Imprint onto a Solid

Duplicating a Model

- Mirroring 3D Geometry
- Arraying 3D Geometry

Visual Styles

- Controlling the Visual Display of Solids with Visual Styles
- Using the Five Default Visual Styles
- Controlling Visual Styles
- Using Visual Style Overrides
- Accessing the Visual Style Manager
- Creating a Custom Visual Style Using the Visual Style Manager
- Saving Visual Style Overrides as New Visual Styles
- Adding and Using Visual Styles from Tool Palettes
- Exporting Visual Styles to a Tool Palette

3D Walk and 3D Fly

- Using 3D Walk for Movement and Motions
- Using 3D Fly for Movement and Motions
- Adjusting 3D Walk and 3D Fly Motions
- Recording 3D Walk and 3D Fly as an Animation
- Using Animation Paths

Applying Materials to your Model

- Using Realistic Materials on 3D Models
- Accessing Materials for My Model
- Applying Materials to a 3D Model
- Saving Materials with my Drawing File
- Creating and Editing Custom Materials

Creating Working Drawings

- Using the Flatshot Command
- Using the Section Plane Command
- Modifying a Section Plane
- Properties of Section Planes
- Creating Plane, Boundary and Volume
- Editing a Section Plane with Grips
- Creating 2D and 3D Sections