

AutoCAD 3D training course

Course Description

Explores the fundamental concepts and workflows for creating 3D models using AutoCAD®, making use of hands-on exercises representing real-world, industry-specific design scenarios.

Delegates learn about:

- 3D conceptualisation using solid, surface and mesh models, and the recommended practices for evolving those into composite models.
- The tools and concepts of free-form organic modelling.
- Presenting designs while they are still being created using visualisation tools such as visual styles, model walk and fly throughs, materials and lighting.
- Outputting 3D models from AutoCAD to either paper or a distributable, electronic version.

Course duration: 2 days

Courseware provided: Yes

Objectives

To teach the fundamental concepts and workflows for creating 3D models using AutoCAD, including:

- Creating a rough design using solid primitives, solid or surface models from cross-sectional geometry, or composite models from multiple solid models.
- Completing a solid model design by adding the necessary features to detail, duplicate and position 3D models.
- Creating free-form, organically shaped mesh models using sub-d mesh modelling tools, and converting them to solids or surfaces for additional modelling operations.
- Converting 2D objects to 3D objects.
- Documenting a 3D design by creating 2D drawings for production and visualisation.
- Communicating design ideas using visual styles, lights, model walk-through tools and renderings.

Who Should Attend

Users who are familiar 2D drawing techniques in AutoCAD who want to create 3D models of their designs.

Prerequisites

Delegates should have a working knowledge of:

- Create and editing basic AutoCAD objects.
- Working with layouts.
- Microsoft® Windows®.

Course Outline

Day 1

3D Modelling

- Introduction to 3D Modelling
- Creating Solid Primitives
- Mesh primitives
- Working in 3D
- Introduction to Free-Form Design

Modelling Workflow

- Creating Models from 2D Profiles
- Using Booleans on Solid Models
- Creating Composite Models
- Extracting Geometry from Solid Models
- Getting Information from 3D Objects

Editing Models

- Adding Detail to Your Solid Models
- Editing Solid Models
- Manipulating the Model
- Duplicating the Model
- Converting 2D Objects
- Basic Mesh Modelling

Day 2

Sectioning a Model and Creating Drawings

- Sectioning a Solid Model and Generating 2D Geometry
- Creating Drawings from 3D Models

Visualization

- Using Visual Styles
- Using Lights
- Using Materials
- Using the Sun
- Rendering
- Navigating the Model
- Using Cameras and Views

Downstream Uses for Your Digital Prototype

- 3D Printing

Please note: Course topics may be modified by the instructor based upon the knowledge and skill level of the course participants.

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