

## AutoCAD 3D Drawing & Modeling

### Courseware Description

Using hands-on exercises representing real-world, industry-specific design scenarios, students explore the fundamental concepts and workflows for creating 3D models using AutoCAD®. Students learn how to create and modify both solid and surface models. This courseware also teaches students how to present their designs while they are still being created, using visualization tools such as visual styles, model walk and fly throughs, materials, and lighting. Students also learn how to output 3D models from AutoCAD to either paper or a distributable, electronic version.

<b>Suggested Course Duration:</b>	3 days
<b>Pages:</b>	410
<b>Trial CD:</b>	No
<b>Onscreen Exercises Included?</b>	Yes

### Objectives

The primary objective of this courseware is to teach students the fundamental concepts and workflows for creating 3D models using AutoCAD.

After completing this course, students will be able to:

- Represent a design by creating solid primitives, solid or surface models from cross-sectional geometry, or composite models from multiple solid models.
- Complete a solid model design by adding the necessary features to detail, duplicate, and position 3D models.
- Convert 2D objects to 3D objects.
- Document a 3D design by creating 2D drawings for production and visualization.

Communicate design ideas using visual styles, lights, model walk-through tools, and renderings.

### Who Should Attend

This courseware is for designers who are familiar with AutoCAD and proficient in working with 2D objects, and who want to create 3D models of their designs.

### Prerequisites

Before using this courseware, students should have a working knowledge of the following:

- How to create and edit basic AutoCAD objects.
- How to work with layouts.
- A recent version of AutoCAD.
- Microsoft® Windows® Vista, Microsoft® Windows® XP, or Microsoft® Windows® 2000.



## Course Outline

### Day 1

#### 3D Modeling

- Introduction to 3D Modeling
- Creating Solid Primitives
- Creating Models from 2D Profiles
- Creating Composite Solids
- Working in 3D

### Day 3

#### Visualization

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

### Day 2

#### Creating Models from Cross Sections

- Converting 2D Objects to Solids or Surfaces

#### Editing Models

- Adding Detail to Your Solid Models
- Converting Objects
- Editing Solid Models
- Extracting Geometry from Solid Models
- Changing the Model Position
- Duplicating the Model
- Getting Information from 3D Objects

#### Sectioning a Model and Creating Drawings

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

