Autodesk Authorized Training Center

AEC SYSTEMS EXPERIENCE. KNOWLEDGE. SOLUTIONS.

Course Title: **3ds Max Design Introduction**

Course Code: **3DSMAXD-1**

Duration: **3 Days**

Courseware Description

Autodesk 3ds Max Design is Autodesk's premier design visualization platform It offers world-class state-of-the-art technology for creating photo-realistic "still" renderings and desktop animations While it includes its own tools for 2D and 3D modeling, Autodesk 3ds Max Design can also work with geometry imported from many other applications Autodesk 3ds Max Design is a robust and powerful program that can be challenging to learn This course provides a thorough introduction to Autodesk 3ds Max Design that will help new users make the most of this sophisticated application, as well as broaden the horizons of existing, selftaught users Learn the fundamental principles of 3D parametric part design, assembly design, and creating production-ready part and assembly drawings using Autodesk® Inventor®. Hands-on exercises representing real-world, industry-specific design scenarios are included.

The main six modules are intended for a 3 day class of intensive instructor-led training Topics labeled "Optional" can be included at theinstructor's discretion based on the interests of the class and the time available In addition, the appendix contains supplemental information and related optional topics.

Objectives

After completing this course, students will be able to:

- Introduction to Autodesk 3ds Max Design
- Autodesk 3ds Max Design Interface and Workflow
- Autodesk 3ds Max Design Project Configuration
- Assembling Files – File Link and Import
- 3D Modeling from 2D Objects
- Materials
- Introduction to Autodesk 3ds Max Design Lighting
- Lighting with Autodesk 3ds Max Design mental ray
- Rendering
- Animation for Visualization

Who Should Attend

The practices included are geared toward real-world tasks encountered by the primary users of Autodesk 3ds Max Design:
professionals in the Architectural, Interior Design, Civil Engineering, Mechanical Engineering, and Product Design industries.

Prerequisites

Some knowledge/experience with 3D modelling is highly recommended. Working knowledge of the following:

- Have a working knowledge of a CAD application such as Autodesk AutoCAD or Autodesk Revit.
- Microsoft® Windows® 7, Windows® Vista or Microsoft® Windows® XP.

Autodesk
Authorized Training Center

AEC SYSTEMS
EXPERIENCE. KNOWLEDGE. SOLUTIONS.

Outline

- **Introduction to Autodesk 3ds Max Design**
  - ***Overview***
    - Overview
    - Visualization Workflow
  - ***The Autodesk 3ds Max Design Interface***
    - Menus and Toolbars
    - The Command Panel
    - Modeling Ribbon
    - Status Bar
    - Setting the Project Folder and Configuring ser Paths
    - Viewport Configuration and Navigation
    - Object Selection Methods
  - ***Basic Functions***
    - Model with Primitives
    - Applying Transforms
    - Sub-Object Mode
    - Reference Coordinate Systems and Transform Centers
    - Cloning and Grouping
    - Poly Modeling with Graphite Tools
    - Statistics in Viewport
    - Self Check: Introduction to Autodesk 3ds Max Design
- **Starting a Visualization Project**
  - ***Autodesk 3ds Max Design Configuration***
    - Video Modes
    - Preferences
    - Configure Paths
    - Units Setup
    - Customizing the User Interface
  - ***Assembling Project Files***
    - Data Linking and Importing
    - DWG Link and Import Options
    - Importing and Linking Models from Revit
    - Layer and Object Properties
  - ***3D Modeling from 2D Objects***
    - Drawing 2D Lines
    - The Lathe Modifier
    - 2D Booleans
    - The Extrude Modifier
    - Boolean Operations
    - The Sweep Modifier
    - Using Snaps for Precision
    - Self Check: Starting a Visualization Project
- **Materials**
  - ***Introduction to Materials***
    - How Materials Work
    - Understanding Maps and Materials
    - Managing Materials
  - ***Material Types and Parameters***
    - Standard Materials
    - Material Shaders
    - Assigning Maps to Materials
    - Opacity, Bump, and Reflection Mapping
    - mental ray Materials
    - Autodesk Material Library
    - The Material Explorer
  - ***Mapping Coordinates and Scale***
    - Mapping Coordinates
    - Mapping Scale
    - Spline Mapping
    - Self Check: Materials
- **Introduction to 3ds Max Design Lighting**
  - ***Autodesk 3ds Max Design Lighting Overview***
    - Local vs Global Illumination
    - Selecting a Lighting Strategy
  - ***Standard and Photometric Lighting***
    - Fundamentals of Standard Lighting
    - Types of Standard Lights
    - Shadow Types
    - Photometric Light Objects
    - Exposure Control
    - Daytime Lighting
    - Soft Shadows and Ambient Occlusion
    - Self Check: Introduction to 3ds Max Design Lighting
- **Lighting and Rendering using mental ray**
  - ***Scene Preparation for mental ray***
    - Fundamentals of mental ray
  - ***Rendering with mental ray***
    - mental ray Interior Rendering
    - Controlling mental ray Quality
    - mental ray Proxies
    - Self Check: Lighting and Rendering using mental ray
- **Rendering and Animation**
  - ***Rendering***
    - Iterative Rendering
    - Single vs Double-Sided Rendering
    - Camera Parameters
    - Background Images
    - The Print Size Wizard
    - Selected Rendering Options
    - Rendering Presets
  - ***Animation***
    - Animation Controls
    - Walkthrough Animation
    - Animation Output
    - Self Check: Rendering and Animation
- **Optional Topics**
  - Getting Help with Autodesk 3ds Max Design
  - Compact Material Editor
  - Architectural Materials
  - Object Substitution
  - Camera Matching
  - Lighting Analysis
  - Creating Hierarchies
  - Creating an Assembly Animation
  - Loft Objects