

Course Title

Autodesk 3ds Max 2025: Fundamentals

Course Description

This course provides a comprehensive introduction to Autodesk 3ds Max 2025 for visualization. Learners will develop core skills in interface navigation, 3D modeling, materials, lighting, rendering, and animation, with an emphasis on real-world visualization workflows for architecture, interior design, and civil engineering.

Course Duration

- **Total Duration: 3 Days (24 Hours)**
 - **Delivery Mode:** Instructor-led (classroom or virtual) with hands-on exercises
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Prerequisites

- Installed Autodesk 3ds Max 2025
 - Basic understanding of 3D concepts (recommended)
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Course Learning Outcomes

By the end of this course, learners will be able to:

- Navigate and configure the 3ds Max interface
 - Import, link, and manage external project files
 - Create and edit 3D geometry using multiple modeling techniques
 - Apply materials, textures, and mapping coordinates
 - Configure lighting, cameras, and exposure control
 - Render still images and animations using Arnold and other renderers
 - Produce basic visualization animations
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Module-by-Module Course Outline

Module 1: Introduction to Autodesk 3ds Max

- Overview of 3ds Max and visualization workflows

- Interface components and navigation
 - File management, preferences, and project setup
 - Display drivers and viewport configuration
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Module 2: Software Configuration and Scene Organization

- Viewport navigation tools
 - Viewport layouts and settings
 - Object selection methods
 - Units setup (Mixed Units)
 - Layers and object properties
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Module 3: Assembling Project Files

- Importing vs linking data
 - Working with AutoCAD, Revit, FBX, and civil design data
 - File linking and management options
 - External references (XREFs)
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Module 4: Basic 3D Modeling Techniques

- Modeling with primitive objects
 - Modifiers and transforms
 - Sub-object modeling (Edit Poly)
 - Reference coordinate systems and transform centers
 - Cloning and grouping geometry
 - Polygon modeling with the Ribbon
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Module 5: Modeling from 2D Objects

- Creating 3D forms from splines
 - Lathe modifier
 - Extrude modifier
 - Sweep modifier
 - 2D and 3D Boolean operations
 - Using snaps for precision modeling
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Module 6: Materials and Textures

- Material fundamentals and workflows
 - Slate Material Editor
 - Arnold materials and physical materials
 - Assigning and managing texture maps
 - Opacity, bump, and reflection mapping
 - Scene Converter and Material Explorer
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Module 7: Mapping Coordinates and Scale

- UVW mapping techniques
 - Map scaling methods
 - Spline-based texture mapping
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Module 8: Photometric Lighting and Cameras

- Lighting concepts and light types
 - Photometric light objects and parameters
 - Shadow types and properties
 - Cameras and background images
 - Safe frames and aspect ratios
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Module 9: Arnold Lighting

- Arnold light types and shapes
 - Interior lighting workflows using Arnold
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Module 10: Exposure Control, Daylight, and Rendering

- Exposure control methods
 - Daylight systems (Sun Positioner, Sun & Sky)
 - Rendering options and output configuration
 - Arnold renderer settings
 - Image-based lighting (IBL)
 - Scanline and ART renderers
 - State Sets and Print Size Wizard
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Module 11: Animation Fundamentals

- Animation controls and time configuration
 - Turntable animation concepts
 - Camera walkthrough animations
 - Animation output formats and settings
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Optional / Advanced Modules

- Object substitution
 - Creating hierarchies
 - User interface customization
 - Compact and legacy material editors
 - Additional modeling, lighting, and rendering workflows
 - Standard lighting systems
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