



# Autodesk 3ds Max: Fundamentals for AEC

## Course Length: 4 Days

This training course provides a thorough introduction to Autodesk 3ds Max that will help new users make the most of this sophisticated application, as well as broaden the horizons of existing, self-taught users. The course instructs you on how to effectively use the software interface and navigate through the scenes. It explores the creation of 3D objects and how to bring in objects from other software such as Autodesk Revit, AutoCAD, and Civil 3D. Additionally, it teaches you to prepare the scenes for renderings by adding materials, lights, and cameras. Finally, the course covers an understanding of various renderers included with the software, as well as image creation and animation techniques.

The practices in this course are primarily geared towards real-world tasks encountered by users of the Autodesk 3ds Max software in the Architecture, Interior Design, and Civil Engineering industries. Advanced topics such as character modeling, character animation, and rigging are not covered in this course.

## Topics Covered:

- Autodesk 3ds Max interface and workflow
- Assembling files by importing, linking, or merging
- 3D modeling with primitives and 2D objects
- Using modifiers to create and modify 3D objects
- Materials and maps
- Autodesk 3ds Max lighting
- Working with cameras and exposure control
- Rendering using various renderers, such as Scanline, ART, and Arnold
- Animation for visualization

## Prerequisites:

Experience with 3D modeling is recommended.

Course description shown for Autodesk 3ds Max 2022. Topics, curriculum, and/or prerequisites may change depending on software version.

## Learning Guide Contents

### Chapter 1: Introduction to Autodesk 3ds Max

- 1.1 Overview
- 1.2 Visualization Workflow
- 1.3 The Autodesk 3ds Max Interface
- 1.4 File Commands
- 1.5 Configure Paths
- 1.6 Display Drivers
- 1.7 Viewport Display and Labels

### Chapter 2: Autodesk 3ds Max Configuration

- 2.1 Viewport Navigation
- 2.2 Viewport Configuration and Settings
- 2.3 Object Selection Methods
- 2.4 Units Setup
- 2.5 Layer and Object Properties

### Chapter 3: Assembling Project Files

- 3.1 Data Linking and Importing
- 3.2 Linking Files
- 3.3 References

### Chapter 4: Basic Modeling Techniques

- 4.1 Model with Primitives
- 4.2 Modifiers and Transforms
- 4.3 Sub-object Mode
- 4.4 Reference Coordinate Systems and Transform Centers
- 4.5 Cloning and Grouping
- 4.6 Polygon Modeling Tools in the Ribbon
- 4.7 Statistics in Viewport

### Chapter 5: Modeling from 2D Objects

- 5.1 3D Modeling from 2D Objects

Course description shown for Autodesk 3ds Max 2022. Topics, curriculum, and/or prerequisites may change depending on software version.

- 5.2 The Lathe Modifier
- 5.3 2D Booleans
- 5.4 The Extrude Modifier
- 5.5 3D Boolean Operations
- 5.6 Using Snaps for Precision
- 5.7 The Sweep Modifier

## Chapter 6: Materials

- 6.1 Understanding Materials and Maps
- 6.2 Material Shaders
- 6.3 Managing Materials
- 6.4 General Materials
- 6.5 Scanline Materials
- 6.6 Autodesk Materials
- 6.7 Assigning Maps to Materials
- 6.8 Opacity, Bump, and Reflection Mapping
- 6.9 Arnold Materials
- 6.10 The Material Explorer
- 6.11 Scene Converter

## Chapter 7: Mapping Coordinates and Scale

- 7.1 Mapping Coordinates
- 7.2 Mapping Scale
- 7.3 Spline Mapping

## Chapter 8: Standard Lighting

- 8.1 Local vs. Global Illumination
- 8.2 Standard Lighting
- 8.3 Types of Standard Lights
- 8.4 Shadow Types

## Chapter 9: Photometric Lighting and Cameras

- 9.1 Photometric Light Objects
- 9.2 Arnold Lights

Course description shown for Autodesk 3ds Max 2022. Topics, curriculum, and/or prerequisites may change depending on software version.

- 9.3 Cameras
- 9.4 Background Images

### **Chapter 10: Exposure Control, Daylight, and Rendering**

- 10.1 Exposure Control
- 10.2 Daytime Lighting
- 10.3 Rendering Options
- 10.4 Arnold Renderer
- 10.5 Scanline Renderer
- 10.6 ART Renderer
- 10.7 State Sets
- 10.8 The Print Size Wizard

### **Chapter 11: Animation**

- 11.1 Animation and Time Controls
- 11.2 Walkthrough Animation
- 11.3 Animation Output

### **Appendix A: Optional Topics**

- A.1 Getting Help with Autodesk 3ds Max
- A.2 Compact Material Editor
- A.3 Architectural Materials
- A.4 Object Substitution
- A.5 Creating Hierarchies
- A.6 Customizing the User Interface

### **Appendix B: Optional Practices**

### **Cancellation Policy**

The following cancellation policy shall apply to all training engagements, LIVE Online, Consulting Services and Dedicated/Custom Training:

Course description shown for Autodesk 3ds Max 2022. Topics, curriculum, and/or prerequisites may change depending on software version.

- Company reserves the right to reschedule or cancel the date, time and location of its class at any time. In the event that a Training Class is cancelled by Company, Customer is entitled to a full refund. Company shall not be responsible for any other loss incurred by Customer as a result of a cancellation or reschedule.
- For Customer cancellations when written notice is received (i) at least ten (10) business days in advance of the class, the Customer is entitled to a full refund of its payment or reschedule enrollment, (ii) less than ten (10) business days, Customer shall not be entitled to a refund, but shall receive a class credit to be used within three (3) months of the date of the original class.
- Student substitutions are acceptable with at least two (2) days prior notice to the class, provided substitution meets course prerequisites and is approved by Company's Training Coordinator ([trainingcoordinator@rand.com](mailto:trainingcoordinator@rand.com))
- For all Training orders, cancellation notices must be submitted to [trainingcoordinator@rand.com](mailto:trainingcoordinator@rand.com). Company is not responsible for any error in the delivery of the email notice. In the event of any reschedule of Consulting Services and/or Dedicated/Custom Training by Customer, Company will invoice Customer for all non-cancellable travel expenses.

To request more information or to see training locations, visit [www.imaginit.com/contact-us](http://www.imaginit.com/contact-us).