

## DESIGN & 3D EDUCATION SERVICES

### AutoDesk 3Ds Max Essential

#### Course Length: 6 Weeks

3Ds Max powerfully explores the creation of 3D objects and how to bring in objects from other software such as Autodesk Revit, AutoCAD, and Civil 3D for Visualization. Additionally, it teaches you to prepare the scenes for renderings by adding materials, lights, and cameras. Finally, the guide covers an understanding of various renderers included with the software as well as image creation and animation techniques.

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, Vray, Mental Ray, and Arnold
- Animation for Visualization

#### Prerequisites

- Experience with 3D modeling is recommended. .

Course description shown for Autodesk 3Ds Max 2019. Topics, curriculum, and/or prerequisites may change depending on software version.





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### Training Course Outline

#### 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
- 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

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### Chapter 6: Materials

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

### Chapter 7: Mapping Coordinates and Scale

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

### Chapter 8: Introduction to Lighting

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

### Chapter 9: Lighting and Cameras

- 9.1 Photometric Light Objects
- 9.2 Arnold Lights
- 9.3 Cameras and 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

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