

MAYA 2009 Essentials

This course provides a fundamental understanding of utilizing Autodesk Maya 2009 for Design Visualization. Hands-on exercises throughout the courseware demonstrate the modeling process using techniques that can be applied to the mainstream drafting industries.

Objectives

The primary objectives of this courseware are to teach students how to:

- Understand the basic functionality, features and principles behind Maya 2009.
- Create and manipulate 3D data in Maya.
- Import data from other 3D applications.
- Embellish scenes with the use of materials and maps.
- Create adequate lighting for your environments.
- Animate objects in the scene.
- Render still pictures and animations to disk for later viewing

Duration

3 days

Who should attend?

This course is designed for new users of Autodesk Maya

Typical Schedule

Unless otherwise noted on your class registration e-mail, this class starts each day at 9:00 am and ends at 4:00 pm.

Prerequisites

This course is designed for beginner users who want to learn about 3D environments and want to use Maya for Design Visualization purposes.

It is recommended that you have:

- Have a working knowledge of a CAD application such as Autodesk AutoCAD or Autodesk Revit. A working knowledge of Microsoft® Windows® 2000, Microsoft® Windows® XP. Or Microsoft® Windows® Vista..

Outline

Day 1

Introduction to Maya

- User Interface
- Working with Files
- Working with Objects

Selection

- Selection – The outliner and Channel Box and Hierarchy
- Selection Masks and Soft Selection
- Groups and Layers

Transformation

- Scale, Rotate and Move, Pivot points – insert

Introduction to Polygon Modeling

- Extrude faces, edges and vertex
- Paint Selection for selecting vertex and edges and faces,
- Insert and offset edge loop for line edge copy and modification.
- Slide Edge Tool to avoid moving edges without affecting location of edge in ucs
- Split polygon tool and cut face tool.
- Bevel Faces and edges
- Bridge between two open object segments or edges

- BOOLEAN – Union, Subtract and Intersect (for static objects or non smooth objects)
- Crease tool to sharpen edge
- Uncheck keep faces together to make copies of extrusions.

Intro to NURBS

Day 2

- Materials
- Mental Ray materials
- Blinn, Phong, all about specular
- Bump maps and Displacement map
- Multilister

UV Mapping

- Hardware texturing
- Apply texture
- Bring in file. PSD, MOVIE AND FILE
- Place 2dtexture node in the attribute editor to edit UV mapping
- Hypershade window to view all material on the scene

Hypershade overview

- Create materials there
- Attach to new objects from there
- Import materials from other scenes
- Delete material
- See the graph to see the network links

2dtexture placement attributes

- Interactive placement (middle button)
- Coverage
- Rotate frame
- Place image as projection not normal, and adjust using 3dtexture placement (for Nurbs)
- Interactive placement
- Fit to group box
- Projection Type
- UV Mapping for polygonal shapes in the polygonal workspace – Create UVS menu – Planar mapping
- Select faces and apply various UVS

- Select UVS

Environment

- Background image
- View tab – Image Plane –import image
- Edit image plane – View tab –Image plane – Image plane attributes
- Fit to resolution gate

Overview of the Paint Tool

Day 3

Lights and Shadows

- Daylighting
- Interior Lighting
- Understanding and Creating Ambient Light
- Adjusting Shadow Parameters
- Adding Secondary Lights
- Achieving Convincing CG Lighting with mental ray
- Mental ray options
- Mental ray shadow maps
- Area light and type
- Global Illumination
- Object emitting material with surface shader material

Animation

- Learning General Principles
- Working with Keyframes
- Animating Different Types of Objects
- Understanding Animation Controllers

Rendering

- Learning about Camera Parameters and Concepts
- Creating and Positioning Cameras
- IPR Rendering
- Light effects in the shadow dialog box
- Animating Cameras
- Setting up Scenes and Saving Renders
- Using Rendering Tools Efficiently
- Rendering Scenes using Batch Render

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