



Course Title: Maya – Advanced: Texturing & Lighting

Duration: 28 hours

Autodesk Maya Objective:

Texturing, lighting and rendering are fundamental in the 3d world, without them creating a complete 3D output would be impossible. This course will give the students all the skills they need to produce final realistic renders. They will know how to use the powerful mental ray renderer and to create all sorts of advanced textures and materials.

Course Outline:

Types of Lights

- 3d light types
- Direct lighting
- Indirect lighting

Shadows

- Depth map shadows
- Raytraced shadows
- Area light shadows
- Setting area light visibility
- Creating soft shadows with spotlights

Indirect Lighting

- Setting global illumination
- photons
- caustic light effects
- using final gather lighting
- reusing final gather maps
- combining final gather with global illumination

Mental Ray lights and lens shaders

- physical sun and sky network
- applying physical light shaders
- applying image based lighting
- applying portal light shaders
- bokeh lens shader

Shading Concepts

- Explaining diffuse reflections
- Defining glossy and blurred reflections
- refractions
- the Fresnel effects
- anisotropy
- Defining sub-surface scattering



Shading with mental ray

- Using maya standard shaders
- Creating mental ray shaders
- The mia_material
- Looking at car paint materials
- Using sub surface scattering shaders

Textures

- Understanding UV coordinates
- Mapping polygon uv surfaces
- Projecting 2d texture nodes
- Projecting 3d texture nodes
- Ramp textures

Mental Ray textures

- Applying the turbulence texture
- Considering the round corner texture
- Improving skin details with ambient occlusion
- Applying reflection occlusion

Creating Surface Details

- Bump maps
- Normal maps
- Displacement maps