Advanced V-ray & Rendering application

Training Details

DESCRIPTION
Photorealistic rendering should have to take a great variety of factors into account, ranging from photographic knowledge to understanding the software and the many parameters you need to know in order to use it.

OBJECTIVES:
In this course you will apply the method of rendering in 5 steps
- Framing & checking your models
- Lighting balance
- Creating materials
- Final render
- Post production

TRAINING STRUCTURE:
This course contains 3 courses
- V-ray Essential Course 5 Lectures x 2.5 hours = 12.5 hours
- V-ray Advanced Course 12 Lectures x 2.5 hours = 30 hours
- Post production by Photoshop & light room 3 Lectures x 2.5 hours = 7.5 hours

COURSE TEXTBOOKS AND OTHER READING MATERIALS
We recommend the following resources:
- V-ray official guide
- Photography and Rendering with V-Ray

PREREQUISITES:
- Basic knowledge and skills about using computers
- Architecture background is recommended
- Basic knowledge and skills in 3Dsmax design

COURSE GRADING:
Attendance 40% Assignments (workshop + 2 projects) 60% To pass the course and receive CAD MASTERS certificate you should:
- Attend at least 80% of course hours.
- Score more than 70% as a total score.
ADVANCED V-RAY & RENDERING APPLICATION – COURSE OUTLINE

This course including the following:

**How to start correctly with V-ray**

**Activating V-Ray for the first time**
- Select renderer
- Save as default
- Setup V-Ray and V-Ray Real Time

**Preparing 3ds max and V-Ray to start**
- Set properly gamma for archviz
- Gamma in Preferences
- Gamma in Color Mapping
- Irradiance map and Light cache combination
- Save presets for faster and easy settings

**V-Ray Sun and V-Ray Physical Camera**
- V-Ray Sun and V-Ray Physical Camera
- Default V-Ray Materials for exposures
- Add V-Ray Sun and V-Ray Sky
- V-Ray Sun properties
- Add a V-Ray Physical Camera
- Shutter Speed to control exposure

**How V-Ray Light works**
- White balance for V-Ray Physical Camera
- Adding a V-Ray Light
- Setting units
- Store with Irradiance Map option
- Color temperature
- Relation between size and intensity
- Create strong and diffuse shadows

**Studio lighting principles**
- Hierarchy of lights
- Primary, secondary and fill light
- The process for the professional light balance
- Chromatic contrast
V-Ray Frame Buffer
- Why V-Ray Frame Buffer (VFB) is so special
- Color Correction
- Tools for overexposed areas
- Exposure control
- Curves in VFB

The amazing V-Ray IES Lights
- The amazing V-Ray IES Lights
- What is V-Ray IES?
- How to assign a photometric curve?
- Control the power
- Control color temperature
- Simulating Light Ray and source
- V-Ray Light Material

Create basic Materials with V-Ray
- V-Ray Materials: fundamentals
- How to use Fresnel for photorealistic reflections?
- Control reflection and refraction
- Create chromed metal
- Create plastic
- Create realistic glass
- Create colored glass
- Simulate brushed metals
- Simulate opaque plastics
- Simulate satin glass

How to light with HDRIs
- Learn the IBL (Image-based lighting)
- V-Ray Dome and HDRI file
- Control the power
- Control the rotation in the scene
- How to avoid giant backgrounds?
- How to avoid splotches caused by HDRIs?

Understand Color Mapping
- What really is the Color Mapping?
- Linear color mapping usage
- Exponential color mapping
- When use Linear and when Exponential
- Lose contrast, recover contrast
Advanced Topic to use V-ray

V-RAY PHYSICAL CAMERA
- Use V-Ray as a real DSLR
- Use V-Ray Physical Camera
- Setup V-Ray Physical Camera
- Photography composition rules
- Properly set white balance (D65 and Neutral)
- How to create Depth-of-field?
- Relation between f and shutter speed for perfect dof
- Analysis of the shot and the composition rules
- Lines/distortions/3rd rule
- When using longer focal length
- How to use wide angle for compositions?
- Evaluating perspective
- How to frame in studio

V-RAY LIGHT
- V-Ray Light and options
- How to use an HDRI?
- Create global lighting with HDRI
- How to use V-Ray IES as primary light?
- V-Ray IES and V-Ray Light Materials
- Light balance and Light reflections
- Use a V-Ray Light to create nice reflections
- Combine V-Ray Sun + V-Ray Light + Spot lights
- Use V-Ray Dome and Plane
- How V-Ray Light Materials works
- Ray and standard spot lights
- Lights underwater
- Use V-Ray Light as Portal for photorealism
- V-Ray Light and directional feature
- Create IBL: Image-based Lighting
- V-ray Light Dome combined with HDRI
- Use a V-Ray Light as “Butterfly bank light”
- Black flags usage

LIGHT BALANCE
- LIGHT BALANCE
- Create studio lighting with 3 V-Ray Lights
- Creating light hierarchy
- Learn how to balance lights in V-Ray
- Balance intensity and temperature
• Create a chromatic contrast
• How to use V-Ray IES as primary light?
• Create customized light hierarchy
• Professional workflow: lighting 1 by 1
• Light balance analysis 1
• Light balance analysis 2
• Light balance analysis 3
• Light Balance application
• Create Daily lighting
• Create Golden lighting
• The main lighting rule
• The 3X3 rule for interior shots
• An easy approach for night renders
• How to save time with “fill lights”?
• An easy approach for “Magic Hour” renders
• Sculpt your scenes using the light

EXPOSURE
• Control overexposure
• Use V-Ray Frame buffer to correct the exposure
• Technique for control overexposures
• Why use exponential color mapping + VFB
• What is the Color Mapping and what is it useful for?
• Linear color mapping
• Exponential color mapping
• The secret of Reinhard color mapping
• Tips to compensate exposure
• White balance for sunset
• HSV Exponential Color mapping

V-RAY MATERIALS
• Create different V-Ray Materials
• Plastic, metal chrome, rubber
• Create basic metal chrome
• Simulate rusty material
• Simulate curtain and carpets
• How to use VRay2Sided material
• Fall off for curtains and opacity
• How V-Ray Light Materials works
• Create a reflection maps from diffuse
• How reflection maps work
• Design reflections before light
• What is ExtraTex channel
• How to create embedded Ambient Occlusion?
• Create a separated channel for Ambient Occlusion
• Different ways to extract details with AO
• Manage Fresnel IOR for glass
• How to use Fall off for fabrics and car paint
• Create reflection maps
• Curtain material
• Colored glass materials
• Fog Color / Fog multiplier
• Max Depth option
• Increase reflections with IOR
• VRay2Sided Materials
• Use a map for VRay2Sided Mtl
• How to control the maps in the material editor?
• VRayFastSSS2
• Balance diffuse and translucency
• What’s Multi sub-object material
• Multi sub-object and material IDs
• How to map different channels with UVWmap
• How Unwrap UVW works
• How to make a water material?
• How to use opacity channel for lights?
• Mapping reflections and glossy
• Procedure to control complex mapping
• How to save materials in a library?
• Max Depth option

V-RAY SETTINGS
• Irradiance map and light cache
• Adaptive subdivision: when using it
• Adaptive DMC: when using it
• What is “noise threshold” for final renders
• Setup and use V-Ray Real Time
• Modify V-Ray Sun shadows
• Test settings
• Final settings in
• Affect Shadows option
• What is ExtraTex channel
• How to use V-Ray?
• How to improve irradiance map and light cache?
• V-Ray Sun and size multiplier option
• Modify sky colors and correct distortions
• V-Ray Real Time features
• Draw region and Real Zoom
• Affect channel option
• Final settings for a clean render
• V-Ray Light portals and “simple” option
• How to see perfectly the texture in the viewport
• Contrast textures with Output
• Contrast textures with Color Correction
• Use V-Ray CompTex
• Use V-Ray Color
• V-Ray Fur: easy and effective
• How to save time with “V-Ray Lights Substitutes”
• How to save time during the lighting set up?
• Uniform surface properties
• Subdivs

PROBLEMS&SOLUTION
• The amazing “RayFire” plugin for falling objects
• Learn how to fix black splotches
• How to use Hair and Fur modifier?
• Comb your carpet with “guides”
• Fix overlapped faces
• How to avoid splotches
• Fix Light Cache imperfections
• What are dominant colors?
• No HDRI to achieve great result
• Useful shortcuts for Photoshop
• Quick proxy objects