

V-RAY FOR 3DS MAX: PHYSICAL CAMERA

This document gives a sample lesson plan for involving the Physical Camera module into a lecture

Lecture

- The Physical Camera is a digital representation of a real-world camera and all the terminology and rules of photography apply here as well
- You may start with discussing the basic settings of a camera
 - Aperture – how it's measured and how going from one F-stop/F-number to the next affects the exposure
 - Shutter speed – different cameras use different ways to determine the speed of the shutter
 - Still cameras specify the shutter speed in seconds or fractions of a second
 - Cinematic cameras have a circular rotating shutter and the time the shutter is open is defined in degrees
 - In CG, we can also determine the shutter speed in frames
 - ISO – the sensor sensitivity directly affects the exposure. Higher values are needed in dark conditions. Real-world sensors have an issue where using higher values for the ISO introduces noise into the image. This however is not the case in CG.
 - EV – exposure value allows us to keep a constant exposure while adjusting Aperture and Shutter Speed settings
 - Focal length affects the angle of view and is important when setting up the shot
 - White balance allows us to color correct the image to account for the color of the illumination
- Then you can move to the settings of the Physical Camera and relate its settings to each of the properties of real world cameras described previously

Demonstration

- In this cycle, you can use the provided scene and handout to demonstrate the settings of the Physical Camera

Activity

- In this cycle, you are going to let your students experiment with the provided scene. You may want to give them the provided handout to use as a guideline