Lesson Three

Apertures and Shutter Speeds

Understanding shutter speeds and aperture settings to achieve professional looking results everytime.

The two main creative skills to learn with a camera are which aperture and which shutter speed settings to use when shooting different subjects. These two technical elements in photography help to not only gain a correct exposure when used correctly but will also move your creative photography to the next level.

Apertures

The aperture controls the amount of light passing through the lens and hitting the cameras sensor. So the bigger the aperture in size the more light can pour through the lens, just like the Iris in the human eye lets more or less light through the pupil. Like the human eye the aperture is usually wider in darker conditions and smaller in brighter conditions controlling the light passing through the lens. But unlike the eye the aperture also helps control the amount of depth of focus in the image. An aperture equals an F-stop number and the bigger the number the smaller the aperture, which gives more of the image in focus. So what follows is the smaller the number the bigger the aperture the less that is in focus, Simple?

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The Aperture helps control the depth of focus in an image, which is the amount of image that appears sharp from foreground to background.

Even a image shot with a macro lens can have a change in detail and effect through depth of field.
Shutter Speeds
The shutter speed refers to the amount of time the shutter is left open to gain a correct exposure, it also controls the amount of motion freeze in an image or how much motion blur occurs with moving objects in the photograph. In a dark area the shutter speed will need to be left open longer to gain correct exposure depending on the aperture and ISO setting, this will cause any movement to be blurry. The shutter speed can also be used creatively with flash. A slow shutter speed and flash combo is often referred to as ‘dragging the shutter’. You will usually need a tripod to support the camera for this technique; this is to keep image blur from the camera shake to a minimum.

Key Points
Shutter Speeds
15 seconds  Creative night sky’s
8 seconds  Great for night shots, especially for traffic trail lights
4 seconds  Way too slow for people photography as a rule
2 seconds
1 second  Use a cable release below this shutter speed
1/2 sec
1/4 sec 1/8th sec
1/16th sec  1/30th sec  Good for Interior ambient Light
1/60th sec  Good studio flash sync speed
1/125th sec
1/200th sec  Max flash synch
1/250th sec
1/500th sec
1/1000th sec  Usually the minimum for sports photography
1/2000th sec
1/4000th sec

Top Tip
The shutter speed should at least equal the focal length of the lens to help keep things sharp and avoid camera shake. For Example 200mm lens = 1/200th.

Use a combination of slow shutter speeds and off camera flash to create dynamic images.

Use a Tripod when using slow shutter speeds especially in low light conditions to avoid any camera shake and hence image blur.

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