The Exposure Triangle and How it Affects Your Photos

By Light Stalking on 18 Oct 2011 in “Shooting”

Getting a new DSLR can be quite an overwhelming experience for a new photographer. All the knobs and buttons seem to do a thousand different things (and they do), but the dirty secret of photography is that at its core, knowledge of the exposure triangle is what will make your new DSLR really sing. If you know how the exposure triangle works, then you essentially know the basics of how your photographs will turn out and you can build your skills with the manual functions of your camera from that solid basis.

The biggest benefit of having an advanced DSLR is that they allow manual control over most elements of the photographic process in terms of what’s happening in the camera. By having that control means that it is of great benefit if you know what elements you need to control and what they do. Let’s take a look at the three absolute essentials that make up the exposure triangle – ISO, Shutter Speed and Aperture.

ISO – In film cameras, the ISO refers to how sensitive the film is to light. In a DSLR the same concept applies, but it refers to the sensor setting instead of film. Basically, the lower the ISO number, then the less sensitive it is to light. If you are out photographing things in the bright midday sun, then you will probably want to use the lowest setting available (probably ISO 100 or 200). Conversely if you are photographing poorly lit scenes then higher ISO settings are in order. Just remember than the higher ISO settings often bring the problem of digital noise (unwanted speckles and spots in your images). Usually the top end DSLRs are better at handling noise problems at higher ISO settings.

Shutter Speed – This one is fairly self-explanatory. Shutter speed simply refers to the amount of time that the shutter on the camera opens for when you take a shot. A shorter shutter speed will result in less light hitting the sensor and will have the effect of “freezing” motion. A longer shutter speed will allow more light to hit the sensor and any movement in the scene will appear blurred in the direction it was moving (“motion blur”) which can often be a desirable effect depending on what you are trying to achieve. Each shutter speed setting doubles (or halves) the speed compared to the next setting.

Aperture – This refers to the size of the opening in the lens that lets light hit the sensor. Wider apertures obviously allow more light in and narrower allow less light in. The size of the opening is measured as f/1.4, f/2.8, f/4, f/5.6,f/8, f/16, f/22 etc (commonly referred to as “f stops”). The small the number, the larger the opening and each “stop” up from there effectively halves the size of the opening (and thus the amount of light entering the camera). Aperture also allows you to control depth of field.

How Does That Work in Practice?

The three elements of the exposure triangle interact together. For example, reducing the shutter speed by a stop (increased light) and narrowing the aperture by a stop (decreased light) will result in an identical exposure. However it may result in motion blur (due to decreased shutter speed) or deeper depth of field (due to narrower aperture).

Together, ISO, Shutter Speed and Aperture are collectively referred to as the *exposure triangle*. This is probably one of the most important technical concepts you can know in photography and it's worth sitting down to learn (and standing up to practice) if you'd like to know how to use that shiny new DSLR (or any other camera, for that matter) to its potential.