

Mastering MANUAL MODE

Module 1 Introduction

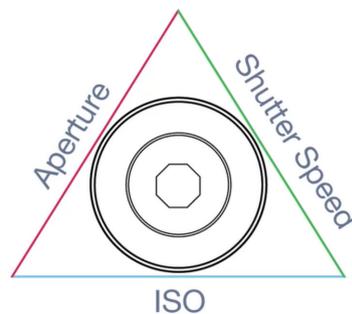
Managing Exposure

The Exposure Triangle

There is a surprising amount of overlap between the way a camera works and the way a human eye works.

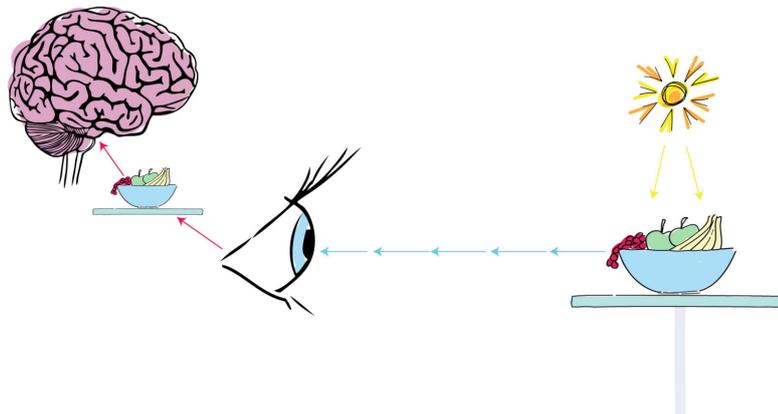
In a camera, there are three key functions that you can use to manipulate light before it becomes a recorded image via your camera sensor. They are shutter speed, aperture and ISO.

THE EXPOSURE TRIANGLE

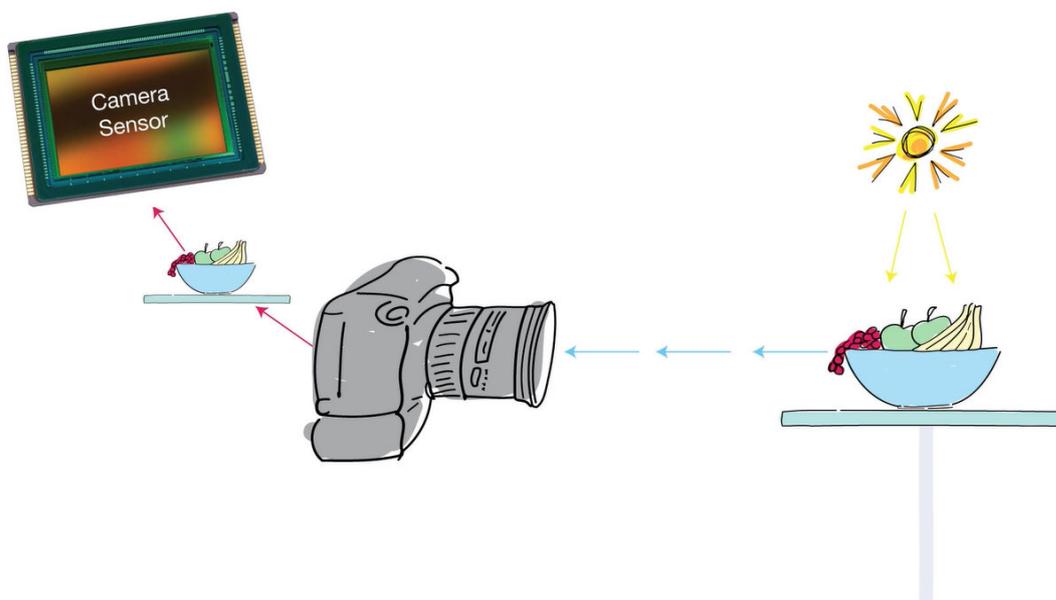


The pupil at the centre of the eye works in a very similar way to the aperture in the camera lens, expanding and contracting to allow more or less light in, depending on the brightness of the environment. The eyelid works like the shutter, closing when it's too bright, and opening as wide as possible when it's darker. And your brain works like the sensor, absorbing the image that it's viewing. ISO is a sensor function that has a direct impact on the light sensitivity of the camera, but we'll talk more about that later.

Collectively, these three controls (shutter speed, aperture and ISO) are known as the exposure triangle, and together they define how much light reaches the sensor to record the image.



For now, what I'd like you to visualise is that an image that we see with our eyes is produced as a result of light bouncing off external objects and being transmitted through our eye (which is like the lens) into our brain (which acts like the camera sensor).



When the light is coming through your camera lens into your camera, it is effectively a tunnel of light carrying all the information from the outside world and directing it onto your camera sensor to record, in the same way that a tunnel of light transmits data from the outside world into your brain, through your eyes.

Shutter speed, aperture and ISO are the 3 functions that you can manipulate before the light hits the sensor and imprints an image.

Individual Functions of ISO, Shutter speed and Aperture

Each of the three controls that makes up the exposure triangle also has its own unique characteristic that creates a secondary effect. So for example, shutter speed also controls whether movement during an exposure will appear as a frozen moment or with motion blur. A fast shutter speed will freeze the moment crisply, whereas a slow shutter speed will expose the movement for longer, resulting in motion blur. The longer the exposure the more motion blur will occur.

Aperture controls how much area in your image is in focus. A large aperture will result in a small area of focus and a small aperture will create a large area of focus.

And finally, the ISO has the secondary function of determining the graininess of your image.

We're going to go into detail about each of these three functions further throughout the course. At this point in time, I'd just like you to have an awareness of the fact that there are three key functions that control the amount of light getting into the camera and each of those functions has a unique secondary effect also.

What is an F-Stop?

A stop or an f-stop is a term that you'll hear often when you're talking about manual mode photography. A stop is an incremental adjustment of either more or less light reaching the sensor in your camera. Each of the three functions that I mentioned earlier, that is — aperture, shutter speed and ISO — can be adjusted by these incremental amounts known as stops. Going up a stop increase the exposure (and therefore the brightness) of your image and going down a stop will reduce the exposure (and therefore darken) your image. Each increment either doubles or halves the amount of light coming into your camera. You can also often adjust by 1/3 or half stops, which are fractional increments.

Shutter speed, aperture and ISO each have their own measurement scale. You will learn more about them as we progress through the course.