

# The Image – Monthly NEWSLETTER

## The Abertawe Photographic Society –

Based near the heart of Swansea, Abertawe Photographic Society is an established, friendly and welcoming club, who's members both amateur and professional all share a common interest, in all aspects of photography.

Whether you are a complete beginner or a seasoned snapper, interested in digital techniques or 35mm film, there is a warm welcome by a likeminded group of people sharing in the search for the perfect image.

By sharing, not only our enthusiasm but also our skills, techniques and knowledge, we all grow as a club and by trying new things we all get the opportunity to stretch our boundaries. All members are encouraged to take part in club events.

The Society meets every Tuesday at:  
**Greenhill Community Centre**  
Chapel Street, Dyfatty,  
Swansea.SA1 1NB.

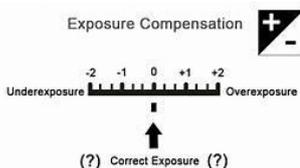
## This Month's Events: February

- 6<sup>th</sup> Editing Images & Hand In for Comp 1
- 13<sup>th</sup> Open Evening
- 20<sup>th</sup> 1<sup>st</sup> Monthly Comp – Rob Mitchell
- 27<sup>th</sup> Open Evening

## 6 Steps in Obtaining a Great Image

I have seen many articles giving you advice on how to obtain a sharp image, and I have based this article on those common factors that are mentioned in many of them. There also other factors mentioned, such as mirror lock-up, use of tripod, etc. So I will leave it up to you to decide which factors you want to use.

The first of the 6 steps is **Exposure Compensation**. It is not necessary to shoot in Manual to obtain complete control of your camera's exposure. In fact, when you shoot in any other mode your camera will set at least one of the three exposure controls, such as shutter speed, aperture, and/or ISO (Remember the Exposure Triangle?). However, your camera also has an override called exposure compensation, which gives you the use of changing exposure values other than what your camera will set for you. Here you will see what exposure compensation will look like in your view finder, but here it is surrounded by descriptive words as well as the icon that you will find on your camera to allow you to adjust the exposure compensation.



So when would you want to use exposure compensation? In fact you may wonder why you want to use this function if your camera can choose the proper exposure level. In fact your camera is often fooled by some of the conditions you may experience. The meter in your camera operates by calculating the tones in its view, and then averaging them out; it doesn't always get the correct as the camera manufacturer decides that the majority of scenes will fall into the middle-grey tone, often reference as 18% grey. So, if your tones in your frame are for example darker than the middle-grey then your camera will decide that there is not enough light, and decides that your image will be underexposed. Quite often your camera is correct, but there are occasions when it gets it wrong.

Night scenes are another example whereby your camera will get it wrong as dark tones will appear in your frame. Your camera meter will not recognise this and will want you to brighten the scene up, but using exposure compensation will allow you to stay in control and set the correct exposure.

In the days of film photography you would load your camera with a film of a set ISO, and away you would go shooting your images at that level. However, today with the advancement of digital cameras you can adjust your ISO according to the scene. So **how to use ISO** is the second of these tips.

By setting your camera to a low ISO, for example 100, the resulting image will be better quality than one set at a higher such as 1600 for example. The higher the ISO the grainier the photo will look. Therefore it's advisable to go for the lowest ISO number whenever possible.

However, certain circumstance that may prevail where a higher ISO is the only option, therefore, a lower quality photograph is better than none at all. A prime example of this is taking photographs of fish in a dark aquarium would normally be out of range for most point and shoot cameras, whereas setting your camera to a high 1600 ISO will make this possible. Otherwise there would not have been enough light let in to the sensor and the image would have turned out totally black.

The following are general rules for using ISO:

- Use an ISO of 100 or 200 when taking photographs outside in sunny conditions.
- If the sky is overcast or it is evening time, use an ISO within the range of 400 to 800.
- Night time or in cases of low light you might need to set your camera ISO to 1600 if photographing moving subjects like people or if you are hand holding the camera. The result may be a grainy / noisy image, however it is possible clean that up in post processing. Another alternative is to put your camera on a tripod and use a much lower ISO with a longer

exposure. This is the recommended method for landscape night shots.

Of the various modes your camera may **Aperture Priority** is the third step in achieving higher quality images. Aperture mode on your camera is denoted either by "A" or "Av" on the mode dial.

In this mode you as the photographer can set the aperture that you wish to use and the camera makes a decision about what shutter speed is appropriate in the conditions that you're shooting in.

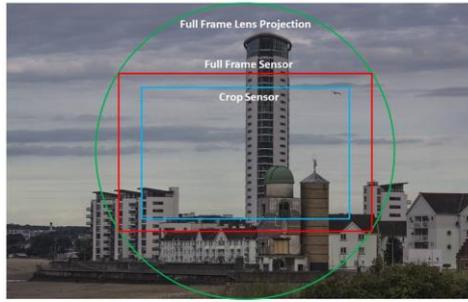
So when would you use this mode? Aperture Priority has an impact on the Depth of Field (DOF). Therefore, most photographers would use this mode when they are attempting to have some control in this area. If you require a shallow DOF, for example when photographing flower in focus but the background nice and blurred, then you should select a large aperture, such as f/1.4, and allow the camera to choose an appropriate shutter speed. If you want an image with everything in focus you would select a smaller aperture (for example f/22) and let the camera choose an appropriate shutter speed (generally a longer one).

Using **f8 in Aperture Priority** is my fourth step. F8 and F10 are often referred to as the "sweet spots", because they allow better pictures where depth of field doesn't matter.

Often referred to as "Flat Scenes", images that don't have a lot of depth, such as the front of a building, a graffiti wall or a person shot against a flat backdrop are best shot in this range because F8 and F10, and give you the sharpest possible image. Depending on your lens, pictures shot at higher and lower apertures may lose sharpness in the corners, which is an optical problem that can have a number of causes but is usually built-in to the lens itself.

For the fifth step I'm going to enter the field of confusion for some photographers, and that is a **Higher f-Stop**. I say an area of confusion as most photographers may experience a loss of optimal sharpness at a higher f-stop and is technically referred to as *Diffraction Limited f-stops*. It is correct to say that with most lenses, wide angle in particular, it is necessary to set your camera to a smaller f-stop, in fact smaller than f8 or f11.

However, you may see that necessity for a large depth of field supersedes the desire for optimal sharpness. For any image that shows no great detail, such as image below, as the foreground items were only a few inches from the front of a 24mm lens. The pipes in the background however, were 20 to 40 feet away. The aperture was set f16, and the image is acceptably sharp, particularly as the subject matter reveals no great detail. However, if there was a subject of great detail, such as a face, then it would reveal a loss of sharpness.



For the final and sixth step is using **Shutter Priority** mode. This will be available on your camera's mode dial and set by using either "Tv" or "S", depending on your camera's manufacturer.

In this mode you choose the shutter speed that you wish to shoot at and let the camera make a decision about what aperture to select to, and hopefully give you a well-exposed image.

So when would you use Shutter Priority Mode? In this mode you are able to adjust shutter speed and subsequently impact 'movement' of your subject captured in your images. As a result, most photographers set their camera in shutter priority mode when they want more control over how to photograph a moving subject.

For example, if they want to photograph a cyclist but want to completely freeze it so there is no motion blur, then you would need to choose a fast shutter speed, for example 1/2000. The camera would take into consideration how much light there was available and set an appropriate aperture. If instead you wanted to photograph the bicycle but have some motion blur to illustrate how fast the bicycle is moving, you might like to choose a slower shutter speed at say 1/125 and the camera would choose a smaller aperture as a result. Keep in mind that as the camera chooses different apertures, it will impact the Depth of Field in your image. This means if you choose a fast shutter speed to freeze your fast-moving object that it'll have a narrower DOF.

Well, I hope these 6 steps have or will help in shooting great images, enjoy.

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### Crop Sensor vs Full Frame

To some, there is a mystery surrounding cameras with crop sensors and those with full frame.

The term "full frame" tends to confuse or annoy some photographers because it isn't specific, meaning full compared to what? Therefore, for the sake of simplicity, when I say "full frame" it means a sensor that is roughly 24mm x 36mm.

Before the digital camera age, when cameras used film, the rectangle that captured the image on a standard SLR (the film) was one size: 24mm x 36mm. So I guess that's where the full frame term came from, and nobody really gave it a second thought.

These days, in the era of DSLR cameras, each camera manufacturer is slightly different; models from the same manufacturer are even different. People usually refer to a sensor's size by its "crop factor." That's the number you use to find the 35mm equivalent of a given lens. It's just like taking the middle of an image and throwing away the outside edges. If a sensor is 24mm x 36mm, then there is no crop factor, since it covers the same area as 35mm film. The photo below shows the difference between full frame and crop.

Nikon has two sensor sizes, namely: full frame (FX) and 1.5x (DX). Whereas Canon has three sizes, namely: full frame, 1.3x and 1.6x. All other manufacturers are in the same range, with Olympus being the notable exception, at 2x.

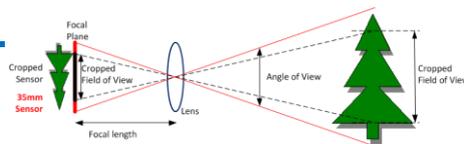
So which is better? You care? Sensor size is important when you're trying to pick a camera because full frame sensors have distinct advantages and disadvantages in different situations.

In general, full frame sensors have better image quality across the board, but they really shine when it comes to ISO performance.

The downside is that full frame sensors and lenses are bigger than their cropped counterparts. Full frame bodies are also more expensive.

There are also some situations where the crop factor helps you. Many photographers are happy with the little bit of extra 'reach' that a cropped sensor will give you with a long lens. In other words, with a cropped sensor, the Effective Focal Length of your lens is increased by x1.5 with Nikon; x1.6 with Canon and even x2 with Olympus. So taking Olympus, a 500mm lens now becomes a 1,000mm lens.

Combining the image above and the diagram below will help you further understand the basic difference between a full frame and a cropped sensor. As you can see, the field of view is small with a cropped sensor as the angle is reduced between the focal plane, through the lens, and onto the subject.



Some photographers will prefer the full frame, mainly due to the improved ISO performance, whereas others prefer the enhanced EFL that a cropped sensor will give you.

So it's all up to you to choose between these two, best of luck and happy shooting.

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### ..... and finally

What does a camera and a condom have in common?

They both capture that magic moment.

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