

## Photography Assignments - Exposure

The purpose of these assignments is to encourage you to use camera modes other than “Auto”, to develop more creative photographs.

### Assignment in Aperture Priority

1. Set your camera to aperture priority mode (turn the dial to AV for Canon, A for Nikon). For this assignment, set the ISO to Auto, if you have this on your camera, otherwise set to 400. This should ensure you're able to take photographs in many different situations. Use a focal length of around 50mm.
2. Change your camera's aperture ( $f$ -stop) to the lowest number possible for your lens. It's important to note that each lens can shoot at different apertures.
3. Go outside and photograph a close object (a friend, perhaps, about 2m away from you) where the background elements are far away in the distance. This is somewhat extreme to ensure you can easily see the differences as you change the  $f$  number. On a low  $f$  number, you should notice that the background is very blurred, when compared with the main subject that's in focus.
4. Now change the  $f$  number to around  $f$  7.1 and take the shot again.
5. Take two more photographs, first with an aperture of  $f$  11, and then at  $f$  22.
6. Download and open all 4 photographs on your computer and see the difference that can be seen in the background.

### Assignment in Shutter Priority

1. Set your camera to shutter priority mode (turn the dial to TV for Canon, S for Nikon). Set the ISO to Auto or 400.
2. Find something to photograph that is moving – a waterfall is ideal, or moving cars on a busy street.
3. Set the shutter speed to  $1/1000^{\text{th}}$  of a second (1000 on the LCD display) and take a photograph of the moving subject.
4. Set the shutter speed to  $1/500^{\text{th}}$  of a second (500 on the LCD display) and take the photo again.
5. If you set your camera to 400 ISO, change it to 200 or 100. We're going to use slower shutter speeds, which let more light onto the sensor, so we need to reduce the sensitivity to ensure we can still get a good exposure. Otherwise, we might over expose the image, and get blown-out highlights – e.g. skies.
6. Now take another series of photos, this time with the shutter speed set to  $1/250$ ,  $1/100$ ,  $1/60$ ,  $1/30$ ,  $1/20$ ,  $1/10$ .
7. Now download the images and open them on your computer. Notice the sharpness of the moving object at the higher shutter speeds, and the blurring at the lower shutter speeds, while the backgrounds stay sharp. What do you notice at the very low shutter speeds, e.g. at  $1/30$ ,  $1/20$  and  $1/10$ ?

### **Assignment with Zooming**

1. Set your camera to shutter priority and the ISO to 200 if it's sunny, 400 if cloudy.
2. Set the zoom lens to it's widest (shortest) focal length, for example this might be about 18mm.
3. Set the shutter speed to  $1/500^{\text{th}}$  of a second and take a photo of a scene with something in the foreground and something further away.
4. Now reduce the shutter speed to  $1/250$  and take another photo.
5. Repeat this with shutter speeds of  $1/100$  and  $1/30$ .
6. Now zoom the lens to its longest focal length. This might be 70mm, 135mm or even 200mm.
7. Focus on something distant and repeat the previous sequence of exposures, i.e. take more photos with shutter speeds of  $1/500$ ,  $1/250$ ,  $1/100$  and  $1/30$ .
8. Download the images and open them on your computer.
9. What do you notice about the images?

### **Assignment to understand the histogram**

1. First, find out where the histogram is on your camera (read the manual if you don't already know!).
2. If it's a sunny day, set the ISO to 100, if cloudy to 400, or set to Auto ISO, if you have this.
3. Set the camera to Auto exposure.
4. Take a photograph of an object or person against a dark background. Make sure a dark colour dominates much of the composition. View the photo's histogram and you should notice high peaks towards the left side of the graph. It's important to understand that in this case, the peaks on the left hand side are due to there being a lot of black within the photograph. Not necessarily because it is underexposed.
5. Now, take a photograph of an object where there is a dominance of white colouring within the composition. When viewing the image's histogram, you should notice the high peaks positioned on the right side of the graph.
6. For a third example, photograph a black object on a white background. This time when you view the histogram you'll notice there are peaks at both ends of the graph.

This exercise will help you to understand more about exposure, in particular what to look for regarding over-exposure and under-exposure.

It is also important to help demonstrate other reasons why you could see high peaks on either end of your histogram graph. They may not always mean your image was exposed incorrectly. Therefore, when you view your histogram, it's also vital that you analyse any other reasons why you may see uneven peaks. After all, you don't want to delete a perfectly good photo!

### **Assignment to use Exposure Compensation**

1. Take some photos on a bright cloudy day.
2. Look at the histogram, and see if there are any "blinkies" on the rear screen.
3. Dial in some exposure compensation – say -1 to start – and retake the photo.
4. Do the "blinkies" disappear or are they just reduced?
5. If some "blinkies" are still present, then dial in some more exposure compensation and retake the image.
6. Download and review on your computer.