



Course outline

Photography over the years has gone through an enormous change. The shift from film to digital took a while to take place. The early digital cameras could not produce the quality to match the quality of film images. Over the last twenty five years technology has moved ahead at an enormous rate.

Digital cameras of today are producing such good quality images that film has almost completely died and put to rest. Digital cameras range from the many 'point and shoot' types, similar to the range finder style cameras of the film days to the Digital Single Lens Reflex (DSLR) cameras. While all these cameras of different brands and models, and the myriad of features they offer are so different they ALL have to do one thing correctly, and that is to produce a well exposed and sharp image. They can only do this by selecting the right combination of ISO, Shutter Speed and Aperture settings. The cameras have to have a lens and focussing system that will produce sharp images.

In all digital cameras now days these functions are, by default, handled automatically. However, a cameras auto function does not always produce a well exposed image, same as the auto focus on the lens does not always produce a sharp image. The reasons for these abnormalities will be explained later as we look in detail at each setting and learn to use them manually.

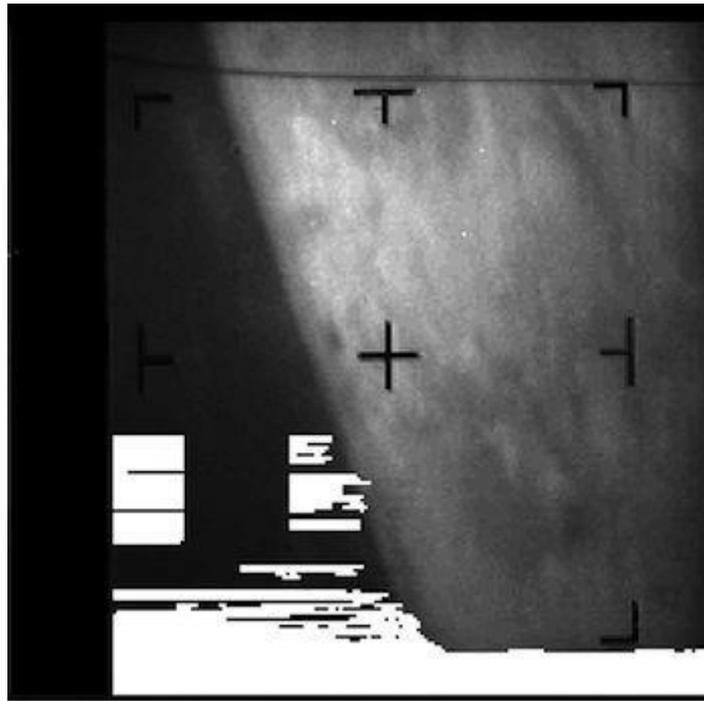
That is what a majority of this course is about. In ten lessons you will be learning about ISO, shutter speed, aperture, focus and some other basic functions. We will also consider composition of an image, and have a look at editing software, and finally other things that you can do with your images, such as making audio visuals, then also look at naming and storing image files. **NOTE:** it is assumed that most course participants will be using computers with a Windows operating system, but wherever possible we will also include comparable information for the Macintosh operating system.

IMPORTANT NOTE - It would not be possible to present this course without mentioning particular brands of products or services. With this in mind, I am not endorsing any one brand or model, check with a good retailer before purchase to make yourself aware of the differences between cameras.

Photography has progressed in leaps and bounds since the introduction of consumer quality digital cameras in the late 1990s. In the days of film cameras the images were created by light passing through the lens and reacting with different chemicals on the film that produced the various colours. The roll of film was taken to a photo lab for processing and printing, also using chemical methods.

Film photography was expensive because of the cost involved in developing and printing the images. These costs were, of course, on top of the purchase prices of the cameras. There were also other restrictions, such as the number of shots per roll, and each film had a specific, fixed, sensitivity (ASA value) Then having to use the whole roll of film on the same ASA (now known as ISO) etc. Then, after finishing exposing the roll of film, which in some cases might have taken weeks or even months, you had to wait up to another couple of weeks to see your results. This meant that if shots did not turn out correctly you could not easily go back and re-take them.

The earliest digital imaging devices, using a somewhat different technology, were developed for the space exploration industry, and the military. The first images from space were captured in 1965 by the Mariner 4 spacecraft on its mission to Mars.



The first digital image of Mars, taken from the Mariner 4 spacecraft

The first digital photographic camera was developed for the Eastman Kodak company in 1975 by the engineer Steven Sasson. It was the size of a large shoebox, weighed 3.6kg and the image sensor contained only 10 000 pixels. The image was recorded to a cassette tape and took 23 sec. to save.



This was Sasson's camera.

Digital cameras still have a lens system but the image is focused on a sensor comprising millions of photo sensitive cells that record the light in three primary colours; the three colours are electronically digitised and given a value in the range 0-255. The colour value (hue) and the position of the photo cell in the sensor are then recorded in the form of an image file.

Now, with digital photography, you have the advantage of seeing your results immediately, and can quickly take another shot if necessary after making the appropriate adjustments. Using a home computer and printer you can do all of your "processing" at home, or send the digital file to a lab or kiosk for printing.

Users became used to the point and shoot style of photography which, for a lot of general shots resulted in acceptable images. Photographers then became to realise that the fully auto system built in to the cameras did not always give the result they required, and the some of the cameras had the capacity to alter settings like, shutter speed, aperture and ISO. We will look at each of these settings in detail in the following lessons.

Homework

Before you get started on Unit 2, you have some homework to do, I want you to locate your users manual for the camera you have and with its help locate on your camera the control for shutter speed, ISO setting and also Aperture setting. These will become well used as we progress through the units. Also locate the focus, find out how to turn off the AOTU function and switch to manual focus.

In Unit 2 we will be looking at using the ISO setting to adjust the camera's sensitivity to light. You can prepare for this by locating the ISO setting control on your camera. You should find it in the menu options.