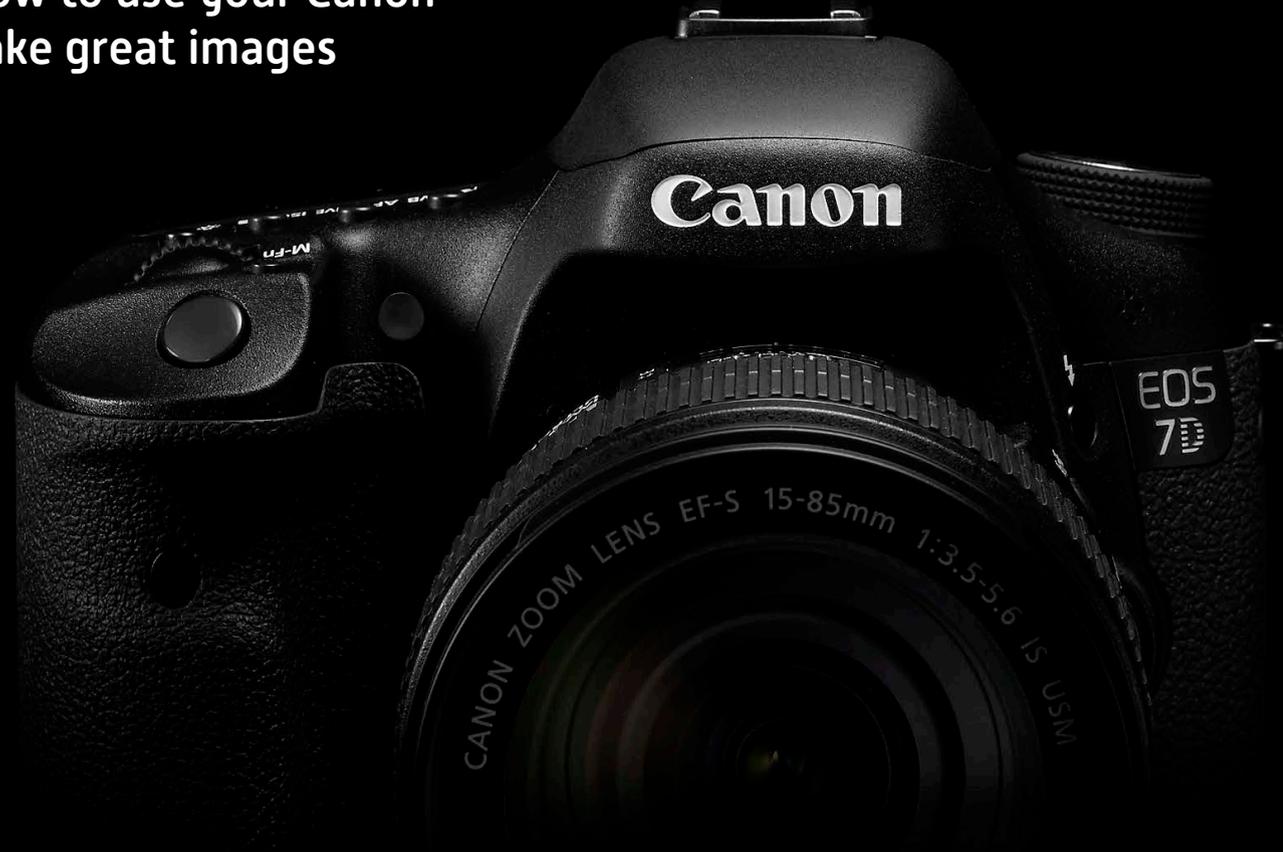


Getting started with the EOS 7D

Especially written for **Canon EOS** users

A simple, modern and non technical approach to learn how to use your Canon EOS 7D camera to take great images



Written by Nina Bailey

About this book

This book is designed for photographers for whom the EOS 7D is their first advanced model in the Digital EOS range, and is designed to gradually get you using and understanding all the basic settings on your camera. The Mastering your EOS 7D ebook follows on and looks at the more advanced features that the camera has.

This book is split into two distinct sections, the first part, getting started, looks at all the key features you need to use to shoot with the camera, but sticks to the easier to use Basic modes, where little photographic understanding is needed. This model lacks the range of PIC or SCN modes found on the models that sit below this camera in the range and so the learning curve is steeper as you have to move away from the point and shoot options fairly quickly. The second part, moving on, looks at the creative modes, which you will need to use on this model, where you have more control over how the camera is taking the image but where a more in-depth understanding of the photographic settings is needed. I will look at the settings in depth in this section and explain what the various settings do to the images that you take.

In the second part of the book I take a look at a few of the basic overrides that the camera offers and how they can be used to produce better images. I will also take a look at some of the standard settings that can be left on their defaults whilst you get to grips with the other settings that you need to understand.

Throughout the book I have included a few practical assignments that will allow you to go out and put into practice what the book is explaining.

I hope the book enables you to get some great images with your EOS 7D.

Written, designed and images by

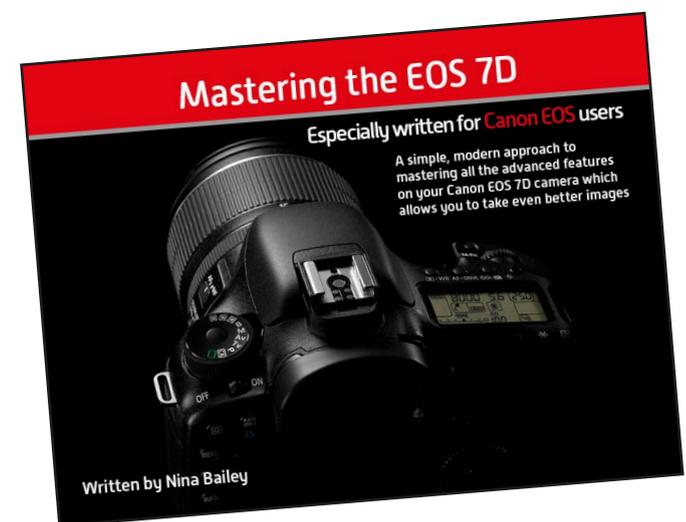
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7D and the V2 firmware update

The EOS 7D had its life in the market extended in mid 2012 with a new firmware update. This added some additional functionality to the camera which brought it a little more in line with some of the current cameras at the time. The EOS 7D was originally launched in 2009 and so had been in the market for quite a long time.

Firmware is the camera's operating system, just as with Windows or Mac operating systems there are updates frequently available, Canon from time to time update the camera's operating systems. Much of the time they are bug fixes, however occasionally additional functionality and features can be added in this way. The firmware version on your camera is found in the tools menu at the bottom of the screen as highlighted in the image to the right. You will only be able to see it in the creative modes - so P, TV, AV, M and B.

If you bought your EOS 7D after mid 2012 it will probably have been supplied with the later software installed, the same applies if you bought your camera secondhand as it is able to be updated by the user. The update is still available on the Canon website, simply search for Canon 7D firmware update, if you have the older firmware and want to update to it. You will need good computer literacy to do this and do read the instructions carefully before you install it.

I have written this manual based on the original firmware being installed on the camera, if your camera has the V2 firmware on it then a few menus might have one or two extra items in it but it does not really affect the things that we are looking at in this book.



I will look at some of these in the Mastering your EOS 7D book but for the purposes of this book it does not matter which firmware you have installed.

Additional items the V2 (2:0:5 was the latest at the time of writing) firmware gives are:

- Improved maximum burst rate when shooting RAW images (up to 25)
- In camera RAW editing
- In camera image rating
- In camera JPEG resizing
- Maximum Auto setting control (400-6400 ISO)
- Manual audio level adjustment in movie recording
- GPS compatibility
- File name customisation
- Time zone settings
- Faster scrolling of magnified images
- Q screen controls when playing back images



Some of the test images shot on the EOS 7D showing the great images that can be achieved, these images are straight out of the camera, shot as a JPEG file and have had no postproduction done to them.



Nina
in the re
photographic
then moved to
where she had a suc
nine years looking a
training, exhibitions and

marketing both in the UK and also within Europe. This gave Nina an unrivalled knowledge of not only the Canon EOS system but also how to develop and enhance the skills of photographers of all ability levels.

Nina started her own business in 1999, concentrating on training for amateur photographers. She is also at the forefront in developing and producing the new Online EOS Training Academy. As well as developing the online training academy and direct training of photographers, Nina is a prolific professional photographer producing images not only for the EOS Training Academy but for a variety of outside organisations. In 2014 Nina started producing her own range of ebooks to bring photography training to an ever wider audience.

Nina started taking images when she was very young and is still a very keen photographer both professionally and personally. Nina loves travel, landscape and wildlife photography and still shoots commercially within the travel photography market. Nina also leads photographic trips, the latest one being to Madagascar in conjunction with Exodus tours.

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Part 1 - Getting started

Getting started with the EOS 7D

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The EOS 7D is a great EOS model to use to learn photography. It has a couple of modes that will allow you to shoot some subjects with the settings remaining under the camera's control. This gives you chance to become familiar with your lenses and what they do and understanding the lighting that will give you the best images, before you need to start understanding some of the settings used within photography.

The EOS 7D is one of the more advanced models within the Canon EOS range. It has a lot less automation than the models below it. Therefore it requires the user to move onto the creative modes much earlier than we would normally be recommending on the models that feature a much wider range of the fully automated modes.

Photography has always had a steep learning curve, and in this modern digital age this has become steeper as there are now far more controls on the camera. On this model it is going to be necessary to take control early on, as the camera was designed assuming the users were going to have a good knowledge of photography. I have tried to break the book into sections that allow you to get some great results and build your confidence, using the Full Auto or as it is often called the Green square mode, before tackling the areas that are by nature more technically challenging.

I always try and teach photography in a very modern way, starting off by taking images using the basic modes and building confidence that you can get great images without needing to take control of everything on the camera. Then as time progresses and you start



to shoot more challenging areas, it becomes time to start to use the camera on modes with more controls, where more understanding is needed.

Far too often I come across photographers who are the verge of giving up photography as they have been told to shoot manually because a photographer, whose techniques are well out of date, has told them that its the only way to shoot.

It's far from the truth as most of the images you

will see in this book are shot on one of the camera's automatic or semi automatic modes. A handful will be shot manually as in those situations it may be the only way to get consistent results, but those occasions are few and far between.

I originally learnt on a fully manual camera, but today choose not to shoot that way, as most of the time the camera makes the same decisions as I would and usually a lot quicker.

Understanding the terms used in photography

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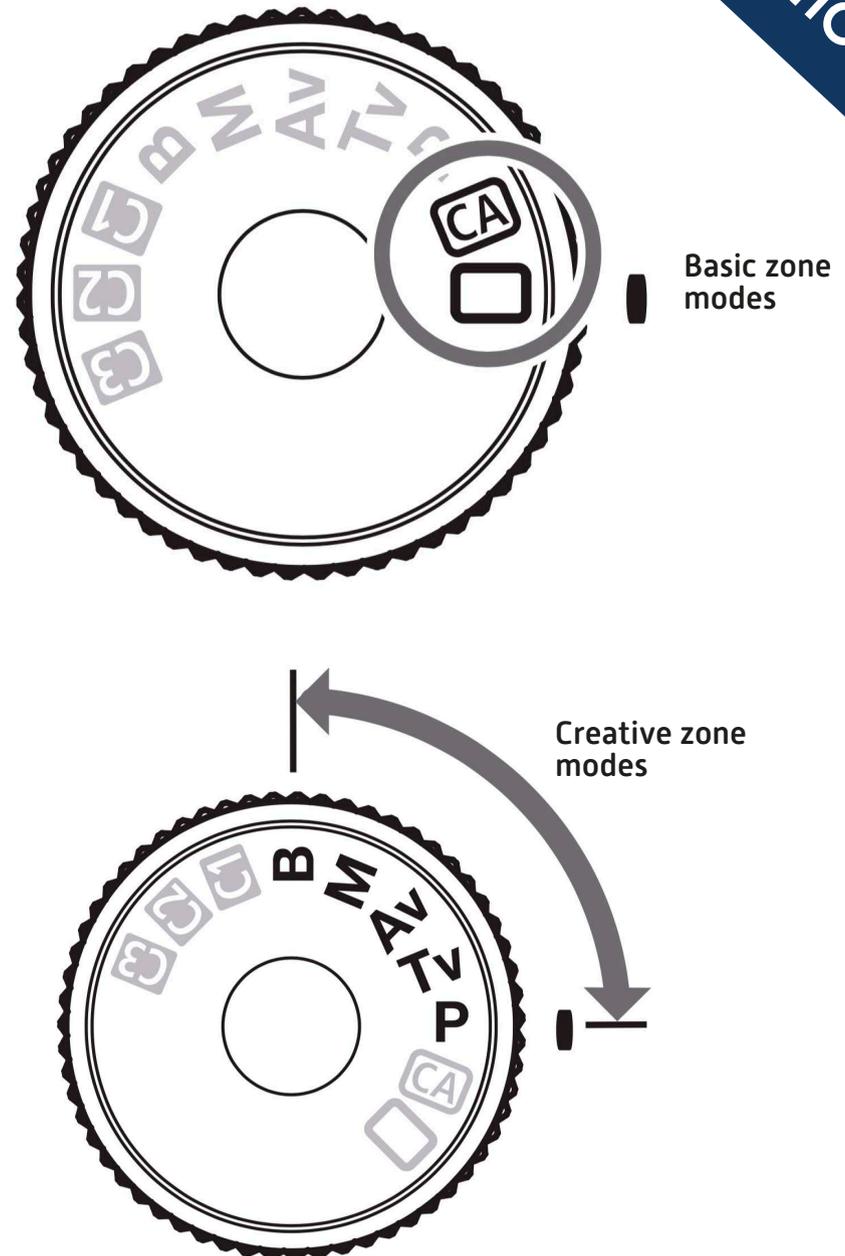
It is impossible in photography to discuss any part of modes on the camera without using a few terms, which many might consider to be technical jargon.

So I am going to explain in a simple way what the key terms mean and basically how they are affecting the image we shoot. I will look in more depth at these later in the book in the section *Moving on*, as once you start to utilise the creative modes you need a more in-depth understanding of how to use them.

In this first part of the book it is only necessary to have a basic grasp of what they are controlling and accept the fact that the camera will be setting all of them for you. Be assured that the camera actually does a very good job of choosing the settings, but what is interesting in these more basic modes is to actually look at what the camera is choosing and learn from it the settings that are needed in various conditions.

The camera's exposure mode dial is actually split into two halves as well. The dial top right shows the Basic zone modes which are designed to make the camera as simple to operate as possible, yet still allow a range of subjects to be tackled. There are lots of safety features present when these modes are in use to prevent you making errors that will affect the images that you are taking.

The bottom right hand dial shows the more advanced Creative zone modes, which I will be looking at in the second part of the book.



What ISO means and controls

ISO - Changes the sensitivity of the imaging sensor to light

ISO stands for international standards organisation, a meaningless term. If you were born before the 1970s then you may have come across this setting under a different name. In the UK it was commonly called ASA (American standards association) and in Germany and many of the eastern block countries it was called DIN (Deutsche Industrial Norms).

The only standard used today is ISO, the difference is that today it is produced on the imaging sensor electronically, and therefore can be varied frame by frame whereas on film it was set by how the film was manufactured and so the film had a specific ISO speed.

The ISO allows you to shoot in a very wide range of lighting conditions. The ISO range on the 7D in the automatic settings goes from 100 ISO up to 3200 ISO as a default. In bright light you will find the camera choosing the lower settings 100-400 ISO and the light levels get lower then the camera will choose higher settings.

As the ISO goes higher there is a small drop on quality for each increment that it goes up. From 100-800 there is no real visible effect on the image. Above this, the image can start to look slightly grainy if you zoom into it but the printed quality will still be very good. However, the quality at the high ISO settings far exceeds anything that was possible with film and so even the very highest settings can be used to give great images. The images to the right were taken with the camera choosing the ISO to use for the light levels they were taken in.



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What Shutter speeds mean and controls

Shutter speed - changes how long the light enters the camera for

The shutter speed is one of two key controls that affect the brightness of the image that you take, better known as the exposure.

The shutter speed has settings from 30 whole seconds up to 1/8000th, though on the fully automatic modes these extremes are seldom used.

The shutter speed has two things that it is used for within photography, the key one is for preventing camera shake occurring. The camera will always try and achieve a shutter speed that will prevent camera shake occurring in the Basic zone modes.

The shutter speed becomes important in action photography where taking the shutter speed up to its higher settings will freeze action.

On the basic zone modes, the camera will think about handholding for you automatically which will prevent most camera shake occurring. Most of the time it does this by increasing the ISO setting it is using, but it can also turn on the built in flash to provide light in the very lowest of lighting conditions.

This model has no full auto mode that gives you any control over the shutter speed so to take images like these you will need to move onto the creative modes.



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What the aperture does and controls

Aperture - The opening in the lens that controls how much light enters

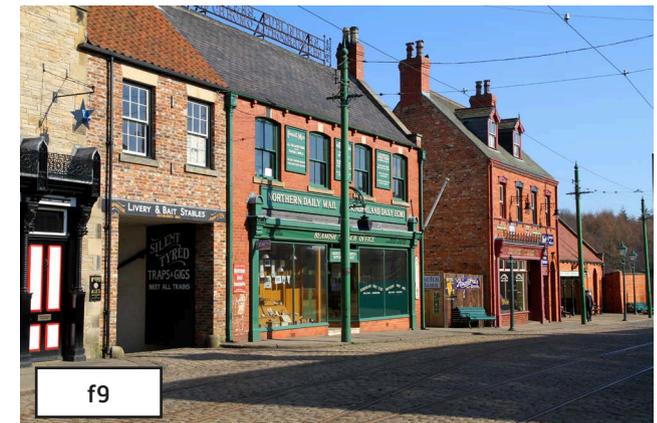
The aperture is the second of the key controls for how bright the image is, or exposure as it is correctly known.

The aperture is basically the opening in the lens, it's the hardest of the controls to understand due to the numbers that are used to describe it. The larger the opening the nearer to 0 the number will be. The aperture range you have available depends on the lenses you have. Most zoom lenses have a range of apertures from f4 which lets in the most light with settings including f5.6, f8, f11, f16 down to f22 which lets in the least light.

The camera tends to keep the aperture towards the wider settings of f5.6 or f8.

The aperture also has a modifying effect on something called depth of field. I will look at this in more detail later, but this is how much is sharp in the images that you take. That said the thing that will have the biggest effect on things such as getting good background blur will be the lens you choose to shoot with and not the aperture which is being used.

Out of the three main controls, ISO, shutter speed and aperture, the aperture is the least important setting to worry about, especially when starting out in photography. There is a relationship between the three settings that I will look at later, for the time being the camera will look after that for you.



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What the lenses you use control

It's commonly said that the D-SLR or Digital Single Lens Reflex camera, of which the EOS 7D is a great example, will take much better images than the compact models in the market. Although this is true, what is often not explained is why this is the case. The thing that sets cameras such as the EOS 7D apart is the range of lenses that they can be used with it.

The camera is often supplied with a fairly basic kit lens, the EF-S 18-55mm f3.5-5.6 IS USM lens is by far the most frequently seen model. This can give great results, but will be limited in the type of images that it will produce great shots of. This is because it has a relatively limited zoom range. Interestingly if compared to many of the compact models on the market the zoom range is actually shorter than many of them. There is a EF-S 15-85mm f3.5-5.6 IS USM lens available but this is sadly seldom recommended with the models such as the 7D at the time of purchase due to its larger size and greater cost.

There is a reality that needs to be faced with this type of camera, which is the outfit will not fit in a pocket like a compact. The outfit will be bulkier and heavier to carry. However, the quality of the images achievable will be better and a much wider range of images can be taken due to the greater lens choice that you have.

A good second lens to start off with is the EF 70-300mm f4-5.6 IS USM lens, which gives a much better range to shoot with and will allow a much wider range of subjects to be successfully tackled. This lens is a manageable size and combines well with the standard kit lens.



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Lens jargon and terminology

I am trying to avoid as much jargon as possible in this book, however, lenses are described in a very specific way and so I am going to look at what all the description on the lens actually means in simple terms.

The most important thing that describes a lens is its focal length. This is a number that is shown on the lens and it has mm after it. If there are two numbers, then the lens is a zoom lens and in the example shown on the right has a range starting at 18mm and going up to 55mm.

Zoom lenses are the most commonly seen in use today as they are very convenient to use and prevent having to change lens too frequently.

If there is only one number shown then it is a fixed focal length or prime lens, which does not zoom, as in the example below. In this case the lens is a 50mm lens. There are advantages to the fixed focal length lenses.



They generally let in more light and are often lighter than the equivalent prime lenses offer higher quality. However, the downside is you need more of them, which makes them larger and heavier to carry around.

For most amateur photographers starting out the lens of choice will be a zoom, for the greater convenience of use and also to allow you to change the framing of the shot.

The lenses I mentioned on the last page were 18-55mm and a 70-300mm lens will work well for most newcomers to photography and allow you to gain experience without spending a fortune on lenses.

As you understand more about photography, many photographers start to specialise and this can lead to wanting more specialist lenses and in some instances more specialised cameras. It is wise not to spend too much on your lens outfit until you start to understand the lenses in more depth and can make a more informed choice as a result of that understanding in what you need for the subjects that you shoot.

I have a very wide range of lenses, but never take all of the lenses with me at one time, I tend to choose the equipment that I am using for the subjects that I am going to shoot.

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Lens jargon and terminology

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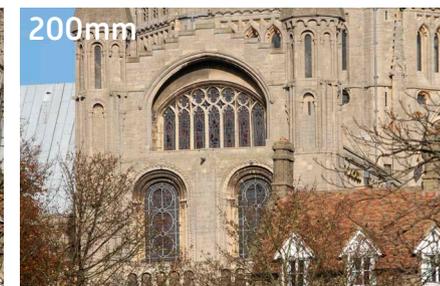
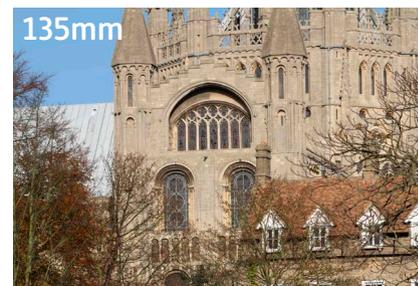
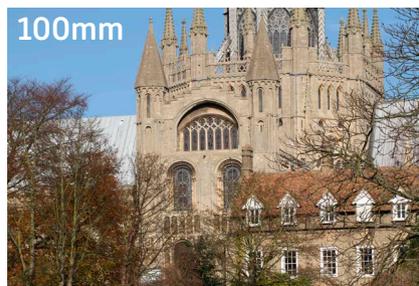
The focal length of the lens tells us the type of lens that it is and the effect that it will have on the image. Lenses can be broken down into three basic groups

Wide angle: These get more into the picture than we naturally see with the eye but they also make things look further away and smaller and so we would not use these for wildlife or most action photography. Focal lengths from 35mm down to 10mm would be considered to be a wide angle focal length.

Standard: These are lenses that give the same width and appearance as we see naturally with the human eye. However, as they do not make the subject look closer they are good for travel and landscape photography. Lenses from 36mm up to 55mm are generally considered to be a standard focal length.

Telephoto: These are the lenses that are used for wildlife, action and sports photography as well as many other things. They capture a narrower area than we naturally see with the eye and make the subject appear to be a lot closer to us. Telephoto lenses technically start at 56mm but it is not until 200mm and longer that they start to make a big difference to your images. **Telephoto lenses** can be split into two groups. The normal telephoto lenses have focal lengths from 56mm and go up to 300mm.

You then have the **Ultra telephoto lenses**, these range from 400mm up to 800mm in the current range. The word ultra also seems to mean expensive as there are none of these lenses that will be found under a thousand pounds and many will be much more than that.



The images above are taken from the same spot but with the lens focal length being changed between each shot. As the focal length gets higher you can see a smaller part being captured. The 50mm image shows the scene as it looked to the eye.

Lens jargon and terminology

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This shows you if the lens is an EF or EF-S type. This will tell you what the compatibility of the lens is.
EF actually stands for Electronic Focus.
EF-S stands for Electronic Focus - Short back focus which is the way that they are making the lenses smaller.

This tells you the focal length of the lens. This lens goes from 15mm which is wide angle up to 85mm which is telephoto and in between those two extremes covers the standard focal lengths as well. These days it is quite common for a lens to cover a range of focal length types in the one lens to make it more versatile.

This is the aperture range, however, with the widest aperture that the lens features. This lens has the widest aperture and so will be f3.5 on the 15mm end of the lens and will vary down to f5.6 when the lens is at its 85mm position. This is a common feature on the more affordable lenses. Most affordable telephoto lenses will have f5.6 when zoomed in. I will explain more about the aperture range shortly.

The IS indicates that the lens features Image Stabilisation which helps you to hold the lens steady making it easier to track subjects and can prevent camera shake occurring when shooting in lower light levels. This is an important feature to have as it can significantly increase the number of good images that you get.

USM is the type of Motor that is fitted into the lens. USM is fast focusing and totally silent in use. If there is no motor type then the lens uses the standard micro motor type which does produce a noise when working.

This indicates the filter size that the lens takes.



Explanation of sensor size

Within the EOS range there are now two types of sensor that can be found in the cameras. The sensor is effectively doing the same job, capturing the image as the film used to. The EOS 7D using the smaller of the two sizes the 1.6x crop or APS-C sensor as it is sometimes called. This has lots of advantages when starting out in photography as it makes the camera and the lenses for it, smaller, lighter and more affordable.

When digital cameras first appeared they initially only used the smaller sensor. This is approximately 22mm x 15mm in size. The 1.6x is often referred to as a magnification factor, which is incorrect, rather the image is cropped by a factor of 1.6x when compared to the image given by the full frame sensor.

The other size of imaging sensor is the full frame or 1.0x sensors as they are generally referred to are the same size as a frame of film. This is 24mm x 36mm. The models that have these are mostly at the more expensive end of the range and are generally preferred by professional photographers. They are also much larger and heavier as a result of having the larger sensor.

The image to the top right shows the difference that is made by simply changing the camera body on the same lens on the area that is being captured. The area captured is smaller, effectively “cropping” the area that is being captured by the camera.

This is a big advantage if showing action and wildlife as you can use much more affordable lenses and still fill the frame.



The easiest way to tell which model is which is to look at the camera's lens mount. If there is a white square and a red dot marked for alignment of the lenses it is a APS-C or 1.6x crop model. If there is only a red dot, then it is a full frame or 1x model.

The image to the right shows the mount of a camera featuring a APS-C or 1.6x crop sensor, the fact that there is a red dot and a white square shows it takes the EF-S lenses and therefore is a 1.6x crop sensor model.



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Which is the best sensor size for photography?

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The APS-C or 1.6x crop sensor models offer a lot of advantages for the amateur who shoots wildlife and action photography. They fill the frame much easier and so you do not need such long lenses, which keeps the cost of the outfit you need down.

Another benefit of the APS-C or 1.6x crop sensor models is that they are smaller and lighter and designed to take the more compact range of EF-S lenses. They do give the crop factor all through the lens range and so you will need lenses much wider than we used to use in the days of film to cope with landscape and travel images. However, this is not the drawback that it used to be thanks to the ever growing range of Canon EF-S lenses.

You may well be wondering why people buy 1.0x or full frame cameras. I actually have both and choose the one that works best for the type of photography I am doing at the time. The APS-C or 1.6x sensors models, such as the EOS 7D are great for people to get going with, being easy to use and set up and smaller and lighter to carry, especially when used with the EF-S series of lenses which are designed exclusively for them.

People who have done photography for many years, tend to prefer the full frame or 1.0x models as the lenses give the same image area as they were used to with film. The full frame models having a larger sensor also have a better low light capability. However, when you start to look at the subjects tackled by these photographers you often find that they are the areas that suit the full frame models better such as landscape, travel, portrait and interior



This was taken on a 300mm lens on a APS-C or 1.6x crop sensor model. To get the same framing with a full frame or 1.0x models I would have needed a 480mm lens which would have cost up to many times as much.

photography.

For most amateur photographers the smaller sensor models such as the 7D will give them the most flexible choice of body and certainly work well for most general areas of photography, .

It can be important, especially if working to a tight budget to chose the body carefully as there is a one way compatibility of the lenses. The EF-S range of lenses are exclusive to the APS-C or 1.6x sensor

models, so if you buy a range of these and decide to change to a full frame model you will need to change all your lenses as well.

The general EF range of lenses can fit any of the EOS D-SLR bodies but are significantly larger, heavier and more costly to buy, but if you eventually plan to end up with a full frame model they can be a worthwhile investment.

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Basic camera layout

Top plate

It is important to understand the controls on the EOS 7D camera, however in this first part of the book, there are a lot of controls that will not do anything as you do not have access to those overrides in the modes that we are looking at.

OFF/ON switch - this is where the camera is turned on and off.

Shutter button - This has a two stage pressure to it. The first half pressure activates the focusing and exposure systems on the camera. The basic zone modes allow the focusing to be locked and then the image can be re-framed whilst still holding the shutter button half down and then the shutter button is fully depressed to take the image.

Main dial - This is used to select items in some menus, and for general navigation in some of the options. Within the basic zone modes it is not used as much as when working in the creative modes.

Mode Dial - This is where the exposure modes are set. The 7D has a lot less than many other models in the range as it only has two basic zone modes, Full Auto and the CA mode.



eBooks for your EOS photography

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