Lesson 1

INTRODUCTION

Aim
Identify the scope of travel photography, and the resources required to take travel photos.

To be able to take good travel photographs, the first essential requirement is to know and understand the equipment and materials used in photography. Part of this first lesson is aimed at ensuring you have this basic knowledge. If you are a competent photographer, you will not need to spend much time on this part of the course, but if you are less confident, we strongly advise you read the appropriate sections until you thoroughly understand (and remember) most of what you are reading.

TRAVEL PHOTOGRAPHY

Travelling can perhaps challenge photographic skills perhaps more than anything else. This is because there is usually such a variety of photographic subjects and photo opportunities. Because the subject matter, light and other conditions all vary so greatly, the equipment and film you use will never be ideal for everything you are doing. This will challenge your skills considerably, and probably cause you to develop tricks and innovations that you might otherwise not have developed.

Most travel photos are taken in medium or average light conditions. In these conditions, the film speed will not be so critical. Medium speed film (e.g. Ektachrome 100 or Kodacolor 200) is probably the most appropriate giving you a wide range of photo opportunities with sharp, rich coloured photos.

Often time is of the essence when travelling. You may only have a short amount of time to take photos at each stop (or while you move through an area in a vehicle. If this is the case, you can loose opportunities if you take too long to set up a photo.
Things that can take time include:

- Changing lenses
- Setting up a tripod
- Changing settings on a camera
- Setting up a flash
- Changing filters (on lenses).

A good travel photographer can (with practice), learn to do these time consuming things faster, but they will still take time.

TRAVELLING WITH PHOTO EQUIPMENT

Whenever you travel, you need to decide what to take and what to leave behind. The choice will depend on lots of things:

- How you are travelling (generally you can't take as much when you travel by air, or are backpacking).
- What you expect to be photographing
- Security (whether equipment can be left secure in a car or hotel etc, while not in use).

Generally one camera and two lenses (one a zoom) will be adequate for the vast majority of subjects when travelling. If you plan to take more than this, you should have a good reason for doing so.
It is also a good idea to carry a tool/emergency kit for cleaning and/or repairing minor problems while travelling. Basic equipment for fixing problems that might arise could include:

- Spare batteries for camera and flash
- Notebook and pen
- Tissues and a bower brush for cleaning
- A Swiss army type knife
- Fabric and adhesive tape

- A small flashlight

Cameras can be damaged in various ways during travel. They do not like vibration, dirt, sand, excessive moisture, heat, or being dropped. Be sure to use a padded protective case, and a strong, secure camera strap. Keep the lens cap on the lens whenever it is not in use. SLR lenses can be given added protection by adding a UV or skylight filter. If you are travelling by air, try to keep equipment with you to avoid theft, or damage.

X-Ray machines are generally of no worry to camera equipment; but film with an ISO/ASA of 400 or higher can be damaged by X rays.

If possible, keep film cool while travelling. You might carry film in an insulated bag or car fridge. Only take sufficient film with you each day, leaving the rest in the refrigerator where you are staying. Avoid leaving film in hot places (e.g. the glove box of a car, or a bag in direct sunlight). Excessive heating of film before use, can result in poorer quality photos.

WHEN TO TRAVEL

Only enthusiasts or professionals choose to travel purely on the basis of taking good photos. The main considerations will be the climatic conditions. Bright summer light for example, can create patches of shadow that can be difficult to work with on film. In some places, the population make-up can change from time to time. A town may be over run by tourists in summer, but dominated by locals at other times. Certain festivals and other events make great photo subjects, but only occur at certain times of the year. If you research a little before booking your travel, and adjust your plans accordingly, it may be possible to enhance your photo opportunities without needing to make any great change to what you originally intended.

THE LAW & TRAVEL PHOTOGRAPHY

When you travel, you will take photographs in different states, and countries, and in each place the law can vary. In some places, you may need official permission before you can take a photograph of something. These legal restrictions most commonly relate to photographing:

- Buildings
- Works of Art
- Copyrighted materials
- People on public or private property
- Children and people in general

Under U.S. law, and laws of many developed countries, anything that is created by someone is protected by copyright. This includes paintings, sculpture and crafts. It can even include such things as architecture, toys, inventions, monuments, or even garden landscapes. The details of such laws can vary from country to country. For example, in the USA, only buildings created after December 1st 1990 are protected by copyright, and there is an exception which applies to photographing buildings in that country, and in most situations. You may not require permission for photographing copyrighted things if the photograph is being used for a limited or specified exempted purpose (e.g. you may be able to make a copy of a work of art for "fair use" or "personal use", but not for commercial purposes).

Apart from copyright legislation, many countries also provide legal protection in the form of privacy or publicity rights. It may be illegal to take photos that intrude upon a person’s privacy, for instance

If you plant to take photos on public property, it is wise to check out what authority is required, and if necessary, obtain a permit.

Under UK law it is illegal to photograph children even at school functions (eg sports days) without permission from parents (certain requirements are laid down by law).

DIGITAL OR FILM

Many aspects of our lives have been influenced by the invention and spectacular development of the computer, photography is no exception. Film based imaging was almost without rival for more than a hundred and fifty years. Yet, within the space of a decade, as the 20th Century turned into the 21st, digital sensors have emerged, and been developed into credible alternatives to silver-halide coated acetate. Largely, because of their convenience, they have taken the place of film as the method of choice for recording still photographs, by amateur and professional photographers alike. However, film is still not dead. Major photography corporations continue to release new versions of film. It is still likely to remain an important part of the photographer's toolkit, and invites us to make comparisons between pixels and crystals, we should be aware of the relative values and methods of use.

The broad principles of photography, whether we use film or digital, are often the same or similar, and in this respect, most of what you read in this course will have relevance to both digital or film. Photography is a craft, the techniques and skills of which we must study and practice learn in order to become proficient. Our craft has a new selection of tools which we should master in order to create beautiful, dramatic, informative images. The tools and technology are the means to the end.

THE DIGITAL CAMERA

Digital photography is becoming more and more common these days, and like it or not, this type of photography is here to stay and will more than likely will completely replace conventional photography one day in the future. However digital or not the same principles of photography apply. If you haven't moved to digital yet or are unwilling, here are some of the issues to consider.

A traditional camera captures the image on a chemical film; a digital camera saves it as an electronic file. The primary benefits of a digital camera is that it's much easier to display your photographs on a computer, and the processing costs are low in comparison to film. So if this is what you want, a digital camera may be for you. For example, it's easy to use your pictures in a newsletter with a word processor, or send your pictures by e-mail, or post them on a website. While travelling, you can find Internet Cafes and e-mail your pictures to friends and family.

Another benefit is that the pictures are "instant". Many digital cameras include an LCD display to show the picture you've just taken. It's possible to delete pictures you don't like, and there's no processing cost. However, the image quality from a digital camera, while good, is not always as good as "film" cameras. The colours are sometimes weaker and not as true, and the contrast can be less than ideal. So if image quality is your main concern, and you are happy with a film camera, then there is no reason why you shouldn't stick with it. Just bear in mind that the processing costs with a film camera are substantially more expensive.

However, remember that if you use a digital camera you will need to store your images. You'll need space on your hard drive or a removable cartridge to keep the files. If you're on the road, you'll either need transportable storage media or a regular connection to the Internet so you can download your images.

Here is a list of some of the advantages and disadvantages of digital cameras:

Advantages of digital cameras

- Gain quality control over your pictures. Conventional photos have no input into an image after it leaves the camera. With a digital photo, image-editing software can be used to restore your pictures, if necessary.
- Send an image to friends, family members, and clients almost instantaneously by attaching it to an e-mail message.
- Explore your artistic side. Using image editing program you can apply special effects.
- Include pictures of your products and other items on your company's site or the World Wide Web.
- Little or no processing costs.

Disadvantages of digital cameras
Print quality is the main disadvantage. To get high quality such as traditional film prints you need a high resolution digital camera, which can be expensive. Lower priced cameras deliver lower resolution images.

- Images from lower priced digital cameras often require touch up work, correct problems with colour balance focus and contrast.
- Once you press the shutter button on a digital camera, the camera requires a few seconds to store the image to its memory, so you may 'miss' capturing the 'moment'.

The main advantage of going digital lies within the business world. Images can be taken with a digital camera or scanned from conventional film and placed on the internet where they can potentially be view by millions of people around the world. Of course, the benefit of having little or no processing costs is also a major benefit. But you still have to consider digital storage costs and the purchase of photo paper and a quality colour printer.

RESOURCES
No matter what you study, how you study or where you study, it is vital that you develop good sources of information. Not all resources are necessarily reliable or up to date though, so you should always consider the resources you seek, find and use, with the following things in mind:

- How up to date are they? For photography, this is particularly important; with dramatic changes having occurred early in the 21st century as digital became increasingly important.
- Context: some information is written for a particular audience (eg. professionals, amateurs, a particular country with particular light conditions, etc), and you may be in a different situation. You might be able to extrapolate useful information, but you cannot rely on information taken out of context.
- Where does the information originate? Some authors are published more because they are good writers' than a knowledgeable photographer. Some teachers may teach photography because they were in the right place for the job; not because they are the best teacher. Information can be published on the internet by anyone, but that does not mean it is good, etc.

Sources of information may include:

Books/Magazines/Newspapers
Borrowed from libraries, bought from bookshops or newsagencies. Note: contact your school to find out what resources are available.

Government Departments
Most government departments produce publications, booklets, leaflets, etc (sometimes given away free, sometimes sold). Some government departments operate advisory services, etc.

Clubs, societies, professional associations
Look in the yellow pages under "Organizations", or use the internet to search and find these.

Shows and Exhibitions
Trade shows, displays in exhibition centers/ show grounds, shopping centres, etc.

Commercial Organizations
Businesses supplying goods or services. Visit a well known photographic supplier's website or write to them. Kodak for instance, publishes a variety of free leaflets: http://www.kodak.com/

People
Individual people with experience to share. Make friends, develop professional relationships with others in this field, and build up a variety of contacts.

Internet
This can be a great source of information, but site content does vary greatly in reliability, quality and accuracy. Even well known sites can contain inaccurate information, so always cross check and know the reliability and credentials of the author and publisher.

EQUIPMENT

Cameras

If you are in the process of buying a new one, consider the purpose you want it for and how your pictures will be used. For example, if you want to blow up your pictures to poster size, you need to make sure the camera can take the highest quality images, which usually means paying a lot more money. The 'lens' is one of the most important considerations. Other considerations are whether you want a film camera (which can take better quality images) or a digital camera (which can save you a fortune on film and processing costs). Do you want full control over your pictures, or do you simply want to point and shoot? Once you have considered all these factors, you will be in a better position to select the right camera for your needs. For travel photography, size can be particularly important. Lugging around huge heavy cameras on a holiday, may not be for everyone. Finally, if you are travelling to destinations where theft is expected, you may want to consider how to ensure your camera is properly protected at all times, or take a less expensive camera that you can 'afford' to lose.

Film

Use a selection of different types of films; experiment! Faster film speeds (higher ISO numbers) can be used in less bright situations, or when fast shutter speeds are needed (to catch action such as someone running). ISO 400 films are good for photographing sports or other action shots indoors, with available light. ISO 1000 is used for taking action shots in very low light. Generally, slower ISO films give a sharper, more grain free picture. If you are going to do very big enlargements (such as poster prints), you will need a low ISO film. Kodachrome 25 gives colour slides with very fine grain and sharpness of detail. Fujichrome 400 gives more grain, is better in low light. Ektachrome Tungsten 50 used with an amber 85B filter is good for haze conditions. The amber filter corrects the blue colour which arises from using this film in daylight. For Black & White films: Agfapan 25 and Ilford Pan F(50 ISO) are good for high grain resolution; Kodak Tri-X is better for grain.

Filters

In Black & White Photography, filters are used to separate tones of black and white, otherwise, different colours can show as the same shade of grey on the finished print. Definition of some things can be lost. (eg. a red apple on a tree can appear the same colour as the leaves). The following filters are used to create different affects in black & white photography:

- 8 Yellow -darkens blue sky and makes clouds more prominent
- 58 Green -darkens reds, brightens greens.
- 11 Yellow/Green - slightly darkens blue sky, lightens green foliage.
- 47 Deep Blue -increases affect of atmospheric haze & lightens blue sky.
- 25A Red -blue sky darkens to almost black, green vegetation darkens & shows through atmospheric haze.
- Polarizing screen -reduces glare.
- Filters can be used in colour photography to create different & unusual affects. Here are some examples:
- 81B Amber -reduces atmospheric haze warms blues.
- 81C Amber -same as 81B but more so.

Tripods

You should ideally use a tripod to get the best pictures. If you happen to be travelling on a plane, then it is also a good opportunity to get some excellent travel shots. A plane can eliminate camera shake, the same as a tripod. When the camera is on a tripod, you can set it in position exactly, and then examine every tiny part of the photo, at leisure, making sure you have everything that you want within the photo, and being certain that there are no undesirable things in the photo.

Very often, changing the direction of the camera just slightly can be the difference between a good photo and a fantastic photo. A tripod gives you time to reflect on what you are taking before you actually shoot.

Lenses

Matching the right lens to the right subject is one of the keys to creative photography. Knowing how to do this is a matter of experience and of understanding the basic characteristics of different types of lenses.

All lenses are described in two ways: by their focal length (as measured in millimetres) and by their speed (maximum aperture). A 300 mm *f*/2.8 lens has a focal length of 300 mm and a speed of *f*/2.8. The focal length of a lens is important, because it gives you an idea of how its angle-of-view and perspective relate to our own vision of the world. Lenses of about 50 mm, for example, are considered 'normal' because they provide approximately the same angle-of-view and perspective that our eyes see. Lenses shorter than 50 mm are considered 'wide-angle' lenses, and those longer than normal are considered *telephoto* or long lenses.

Lens speed indicates how bright the image in the viewfinder will be. Lenses with larger maximum apertures provide a brighter viewfinder image but are not necessarily sharper or better than slower lenses. Their main advantage is that they provide better viewing in dimly lighted situations. For example, a 200 mm *f*/2.8 lens would produce a brighter viewing image than a 200 mm *f*/4.

Normal lenses

These provide about the same perspective as the human eye and are usually in the 45 mm-to-60 mm range for 35 mm cameras. Not too many years ago, your first lens was always a normal lens, SLRs often came with them whether you wanted them or not. Today they are less in favour, largely because most people buy zoom lenses (which often include the normal range) as their first lens. Still, normal lenses offer a straightforward view of the world that is particularly well suited to travel, and you shouldn't travel without one.

Wide-angle lenses

These are superb at reaching out their wide-open optical arms to take in sweeping views of the world. Those in the 20 mm-to-35 mm range are the most popular, 35 mm being the focal length that many point-and-shoot cameras come with. Creatively, they can be used to heighten perspective by exaggerating the distance between near and far objects or, when you're shooting upward, the height of nearby ones.

Wide-angle lenses are well suited to numerous subjects, including landscapes, architecture, and situations where shooting space is tight. They also provide inherently greater depth of field than other lenses.

Telephoto lenses

Telephoto lenses have focal lengths that range from about 85 mm (good for portraits) to super telephotos' 300 mm to 600 mm or longer. All telephoto lenses bring distant subjects (like wildlife) closer: the longer the focal length, the greater the magnification. They also effectively compress space, for instance, cramming a city skyline into an overlapping pattern of geometric shapes. Unfortunately, as focal length increases, lenses become bigger, heavier, slower, and more expensive. You have to measure the need for a longer lens against its cost and inconvenience.

Zoom lenses

These have a variable focal length and are by far the most popular lenses on the market today. Instead of carrying a normal, a wide-angle, and a telephoto lens, you can get one lens that covers the range from 28 mm to 105 mm. Add a second zoom in the 80 mm-to-210 mm range to cover your telephoto needs, and you have an extremely broad choice of focal lengths in just two lenses. The other exciting aspect of zooms, of course, is that they let you alter your composition without changing your shooting position, a major convenience, especially when you're travelling. The flip side is that zooms are slower than single-focal-length lenses, and zoom lenses often do not match their sharpness or contrast.

WHICH LENS IS THE BEST FOR TRAVEL PHOTOGRAPHY?

It really depends upon a number of factors, including the length of the trip, the nature of the trip, and your current phase of photography. A lens can make or break you in terms of image quality. Purchase the best one that you can afford, as an upgrade in lens will usually lead to much greater improvements in image quality than an upgrade in camera body.

The main considerations that you'll probably want to consider when buying a lens for travel include:

- Weight - unless you're lucky enough to be traveling first class and with your own personal porter to haul around your camera kit, you probably will need to limit your lens choice to a couple of lenses simply because of the size and weight that they take up in your bags
- The risk of everything getting stolen and the strain it takes to lift your equipment on those long days of traveling. The fact that the more lenses you take the more time you spend changing lenses and the less time you enjoy your trip has taught me to take the 'less is more' approach.
- Versatility - travel photography presents you with a unique challenge that many other types of photography do not, in that the situations that you might like to photograph can vary incredibly over your trip. Depending upon your destination and the type of shots you take you'll probably a lens (or combination of them) that is versatile and gives you a range of focal lengths. So if you are taking just on lens, a zoom with a wide range might be best, or if you're able to take more than one, then a combination of different lengths could be worth while.
- The variety of lighting conditions, distance to subjects and other requirements means you need to be prepared for literally anything. As a result, a lens that is as versatile as possible in terms of zoom size and speed can be well worth investing in.
- Lens Speed - Depending upon your destination, low light situations are common when travelling. Galleries or ancient buildings where you can't shoot with a flash and shooting dinners at night, all present photographers with real challenges which can be helped by investing in the 'fastest' lens you can afford.
- The speed of a lens is signified by the number that usually appears after the 'f' on the lens (it's aperture). For example - the 18-55mm lens that is usually bundled with a Digital Rebel XT has an aperture of f/3.4-5.6. This means at the 18mm focal length the aperture is f/3.5 and at the 55mm focal length it has a maximum of f/5.6. The lower the number the more light the lens allows to hit your image sensor and the faster shutter speed you'll be able to shoot at (i.e. the lower the number the faster the lens). When shooting in low light a fast lens is a real advantage.
- Other factors - Of course there are other factors to consider, not the least of which is cost. Invest more into your lenses if possible, as the improvements to photos are often made in this area. Having said that, just because you can't afford a pro lens doesn't mean you can't take great shots. Other factors will include the type of shots you tend to take (i.e. if you are into macro shots you might want to invest in a macro specific lens. If you're going to sporting events you might want something with extra length etc).

As mentioned above, when travelling these days, it's a good idea to take 2 lenses: a versatile zoom which will cover a range of focal lengths and a light weight, small and fast prime lens (a prime lens is one with a fixed focal length. Prime lenses are traditionally good quality and faster than zooms.

Lens 1 - Canon EF 24-105mm f/4 L IS

Let me start by saying that this lens is not cheap. However if your budget will stretch you might want to look at this one. I list it here for a number of reasons:

- Its image quality is renowned as one of the best zoom lenses going around. This is an 'L' series lens which is a 'luxury' or Pro level.
- Focal length is wide and will cover a variety of situations and needs
- While f/4 isn't super fast it will do you fine in many lighting situations - especially anything shot in daylight. It's f/4 across all focal lengths so it is faster than the 18-55mm at full extension.
- This lens has Image Stabilization (IS) which will allow you to handhold shots at up to 2 stops faster than normal (this means in low light you can slow your shutter speed a couple of stops without suffering camera shake).

Of course for every positive there is a negative, and this camera's disadvantages include:

- Weight/Size - this is not the lightest lens going around and by the end of a day of it hanging around your neck you'll know about it.
- Price - the weight it adds to your neck will be taken from your wallet - it's not cheap.
- Speed - as I say above, f/4 is ok, but it's not the fastest option going around.

Alternatives to the 24-105mm f/4L IS

A couple of alternatives come to mind:

- Canon EF 24-70mm f/2.8L USM - in the same price league and with similar quality and weight, but faster (aperture of 2.8 across all focal lengths), without image stabilization, shorter zoom range. So if you're shooting at low light a lot (especially moving objects which IS won't freeze) and you don't mind loosing the top end focal length it might be an option.
- Canon EF 28-135mm f/3.5-5.6 IS USM - this is a much more affordable option but you do sacrifice image quality (as you'd expect). It has a longer focal length, still has Image Stabilization and at 28mm is faster than the 24-105mm (but is slower at the other end of the zoom). It's also a bit lighter and smaller. I've owned this lens for a while now and have usually included it in my kit when traveling. Its images are not as good as my L series lenses but it's a good general purpose lens.

Lens 2 - Canon EF 50mm f/1.8 II Camera Lens

While this lens is not much to look at in terms of size, weight or even construction it is significantly faster than any of the other lenses mentioned above at f/1.8. This will allow you to shoot at quite low light levels, especially if you up your ISO (remember you get grain at higher ISO). The Positives for this lens are:

- Speed: f/1.8 is the fastest lens I've currently got in my collection. It's great indoors especially when a flash is not allowed or appropriate.
- Weight/Size: you can fit it in your pocket easily and will hardly know it's there. Its perfect for taking out at night or when you need to travel especially light
- Affordable
- Quality: while it's not an 'L' Series lens, many argue that when you consider it's price it's one of the best quality lenses going around on a 'dollar to quality ratio'.
- Focal length: although you're limited to one focal length it is a useful one. I find it works well with portraits and in getting in nice and close for tightly framed shots of things in streetscapes etc.

On the downside of this lens:

- Focal length: it is a handy length for some shots but not having a zoom can be frustrating if you're used to that. It's also a little too long for landscapes (especially on non full frame cameras where it's the equivalent of an 80mm lens.
- Build Quality: this lens can be a little hard to take seriously when you first pick it up because it's so light that it feels like a toy. It's quite 'plastic'. It is also a reasonably noisy lens and not the fastest at focusing in low light.

Alternatives to the 50mm f/1.8

The following lenses are alternatives to the 50mm f/1.8 in terms of their speed and size:

• Canon EF 50mm f1.4 USM - if the focal length is right but you're a bit put off by the quality of the f/1.8 lens you might want to spend a bit more (actually it's more than 4 times more) and get it's faster big brother - the f/1.4 version. Once again it's small, light and takes sharp pictures. Despite it being more expensive, it's still quite reasonably priced and is significantly better in terms of quality of build and image

• Canon EF 28mm f/1.8 USM - worth considering also when using a non full frame camera is a wider angle lens like this 28mm one (equivalent of a 45mm lens). In many ways this one has a very similar feature list to the f/1.4 lens. It's small, light, fast and not too expensive.

• Canon EF 20mm f/2.8 USM - go even wider angle with a 20mm lens. It's not as small as either of the 50mm lenses but is still small enough and gets some very positive reviews.

Other L Series lenses that you might want to consider:

If money is no object and you don't mind lugging around extra gear here are a few more 'L' Series lenses that I know friends take with them. They're not cheap or light but the results are stunning.

• Canon EF 17-40mm f/4L USM or the Canon EF 16-35mm f/2.8L USM - two wider angle zoom which would match well with the 24-105mm lens. The 16-35mm is especially useful as a faster lens. These lenses are great for portrait and landscape work.

• Canon EF 70-200mm f/2.8L IS USM or the Canon EF 70-200mm f/4L USM - if you think you'll need some extra length on a zoom - I'm a big fan of the 70-200mm range. Of course the 2.8 version is faster and great for lower light situations. Couple these with one of Canon's lens extenders, and you will add even more length. Keep in mind that these are sizeable lenses to travel with, and because they are both white they can draw attention to you and could make you a target for people who might want to take them off your hands.

A variety of lenses will give you far greater flexibility and opportunity. Any lens can be used for landscape or travel photography, but you will need to compromise on what you are attempting to shoot to fit the lens used. It is better to have the flexibility to choose the lens to shoot the picture you want. Zoom lenses are ideal for colour slides. They allow you to get a better control over your final composition. With a variety of lenses, a landscape or street scene can give you a range of different photos shot from the same position. Set up your tripod, and then look at the landscape through different lenses before you actually shoot. You might not shoot through them all, but if you can look at the picture through a variety of "eyes" (so to speak) you will be able to shoot the best picture with the best lens for that situation. Don't fall into the trap of developing favourite lenses. There are always situations where one particular lens just does not work well at all.

DATA STORAGE

Take the largest memory card you can find before you set off on your travels and take additional memory sticks with you. Because memory cards are so small and easily lost, it is wise to consider getting your pictures regularly burned to CD. These services should be available in most major cities. CD's can store 512MB, so if you use 512mb memory cards, the images on each memory card can fit neatly onto a CD. However, the suitability of this option will really depend on how many photos you intend to take.

No matter what type of storage they use, all digital cameras need lots of room for pictures. Most cameras use the JPEG file format for storing pictures, and they sometimes offer quality settings (such as medium or high). The following chart will give you an idea of the file sizes you might expect with different picture sizes:

Image Size	TIFF (uncompressed)	JPEG (high quality)	JPEG (medium quality)
640x480	1.0 MB	300 KB	90 KB
800x600	1.5 MB	500 KB	130 KB
1024x768	2.5 MB	800 KB	200 KB
1600x1200	6.0 MB	1.7 MB	420 KB

SPECIFIC DIGITAL TERMINOLOGY

Aperture Priority
Desired lens opening (f-stop) is manually selected and locked in, the camera then chooses an appropriate shutter speed for proper exposure.

Artifacts
Unwanted effects in the image such as blotches (from over-compression), Christmas tree lights (multi-coloured speckles from bright highlights), noise (granularity from underexposure), and other aberrations that sometimes afflict digital images.

Buffer
Temporary electronic storage area. Several already-exposed digital images can wait in line to be processed. This speeds the interval between shots since each photo does not have to be processed before the next one can be taken

CCD
Charge-coupled device. The sensor array that makes up the imaging surface of the digital camera. The more sensors a CCD has, the higher the image resolution will be.

Cmos
Complimentary Metal Oxide Semiconductor. Used in some digital cameras instead of CCDs because they have low power requirements and are less expensive.

Compact Flash
A matchbook-sized memory card used in many digital cameras today and presently capable of storing over 200MB of information.

Compression
Reducing digital camera picture file sizes in the camera after they're shot, usually according to Joint Photographic Experts Group (JPEG) specifications so more images can be stored on the memory card.

Digital Zoom
An electronic enlargement of part of the image, making it appear to be closer and bigger; simulating an optical zoom lens at a telephoto setting. The image is actually cropped, resulting in loss of surrounding pixels and decreased resolution.

Info-Lithium
A Lithium-Ion battery that indicates its remaining shooting time in minutes on the digital cameras LCD Monitor screen.

LCD Monitor
The Liquid Crystal Display colour screen on most digital cameras usually 1.8 to 2.5 inches measured diagonally and used to check images after they are shot.

Mega pixel (Also MP)
When the length times width of a digital camera pixel array reaches one million, its resolution is then described in Mega Pixels. 6,300,000 pixels equals 6.3 Mega Pixels.

Pixels (and resolution)
The resolution of a digital image is governed by the capabilities of the camera sensor used to capture it and by the way it is printed. The absolute resolution of an image depends on the number of pixels in the image sensor of the camera.

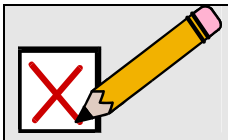
In terms of actual resolution in the final print, even a very old 1.4 megapixel camera should produce very good photo quality images at print sizes up to postcard (14 X 9 cms) and acceptable near photo images at up to 18 X 13 cms. Lower end cameras should be capable of at least this resolution. High end professional cameras of similar size and operation to a 35 mm SLR can use sensors from as large as 20 megapixels and more, which are capable of outstanding image quality. The simple fact is that the quantity of mega pixels available in cameras varies greatly. A large quantity of mega pixels is not the only determinant of image quality. The type of lens used should also be carefully considered. In some cases, a camera with lower mega pixels and a better quality lens may produce better resolution than a camera with an inferior lens and more mega pixels.

Noise
The electronic equivalent of excessive grain in a film image.

Optical Zoom
Zoom lens which uses movement of lens elements to achieve various fields of view.

TRAVELLING TIPS

- X-ray machines have been the dread of photographers since they first came into use in airports. Recent studies, though, have shown that even frequent exposure to well-maintained X-ray machines in developed countries does little or no damage to films. Machines in undeveloped and smaller countries are not as carefully monitored. The exception to this is very fast films (ISO 400 and faster), because their added sensitivity makes them more susceptible to potential damage.
- How much film you bring really depends on your shooting habits. Some people never shoot more than two rolls a day. Always, bring double the amount you think you will need. Film is very expensive in tourist destinations, and it's a major hassle to have to interrupt your touring to go looking for it.
- Batteries are often impossible to find on the road, so always bring an extra or two. Most cameras are useless without them. If using a digital camera makes sure your battery is fully charged before travelling.
- Buying equipment abroad is not a good idea. In the face of duties, and unusable warranty arrangements, buy cameras abroad only if the one you bring dies or is lost. For backup you can bring several one-time-use cameras; these are also great if you are making a side trip to someplace where you don't want to risk your real camera--a rafting excursion or rainy-day hike, for example.



SELF ASSESSMENT
Perform the self assessment test titled ‘Test 1.1’
If you answer incorrectly, review the notes and try the test again.

SET TASK

Create a Resource File: the resource contacts you find should be filed away for safe keeping. You never know when you might need to refer to a book, magazine article, or a person you came across a few years earlier. Use a card file or a book divided up alphabetically. You can list names and addresses of people and organizations that can help you with your photography. You can also list companies that supply equipment & materials, books & magazines/and specific magazine articles which can provide information on specific topics.

For example:
Under "L" for lenses in your resource file you might have the following types of entries:

- Address of a company selling lenses.
- Magazine name and issue number where there is an article on lenses.
- Title of a book you have in your collection that has a good section on lenses.
- Name and address of a person you met at a photo club who knows a lot about lenses

This type of resource file is invaluable in the long term.

ASSIGNMENT
Download and do the assignment called ‘Lesson 1 Assignment’.