

Student: Example

Unit Title. Digital Photography and Printmaking Processes.

**Unit Code: KJ1/2/QQ/010.**

Cameras used. Canon 450D and 500D.

Lenses used. Canon 18-55mm.

Sigma 10-20mm and 50-500mm.

All images edited in Photoshop.

### **Learning Outcomes 1 and 3.**

This image identifies the subject of aperture priority and was taken using my Canon 450D with the 18-55mm lens set on a tripod using a remote control. As there is a large housing development behind the stones to the right I needed to remove it from the scene to encapsulate the dignity of this special place and therefore shot from a low level to retain the correct composition and perspective. The histogram readings were fine, and as the shadows were over my right shoulder the initial composition and use of the 2/3rds rule looked fine, so I decided a focal length of 20mm would be appropriate. Having taken many photographs at varying apertures I eventually felt this scene worked best on F14 at 1/60sec on ISO200 as the stones become the focal point and the hills in the background blended well in the final image due to the depth of field.



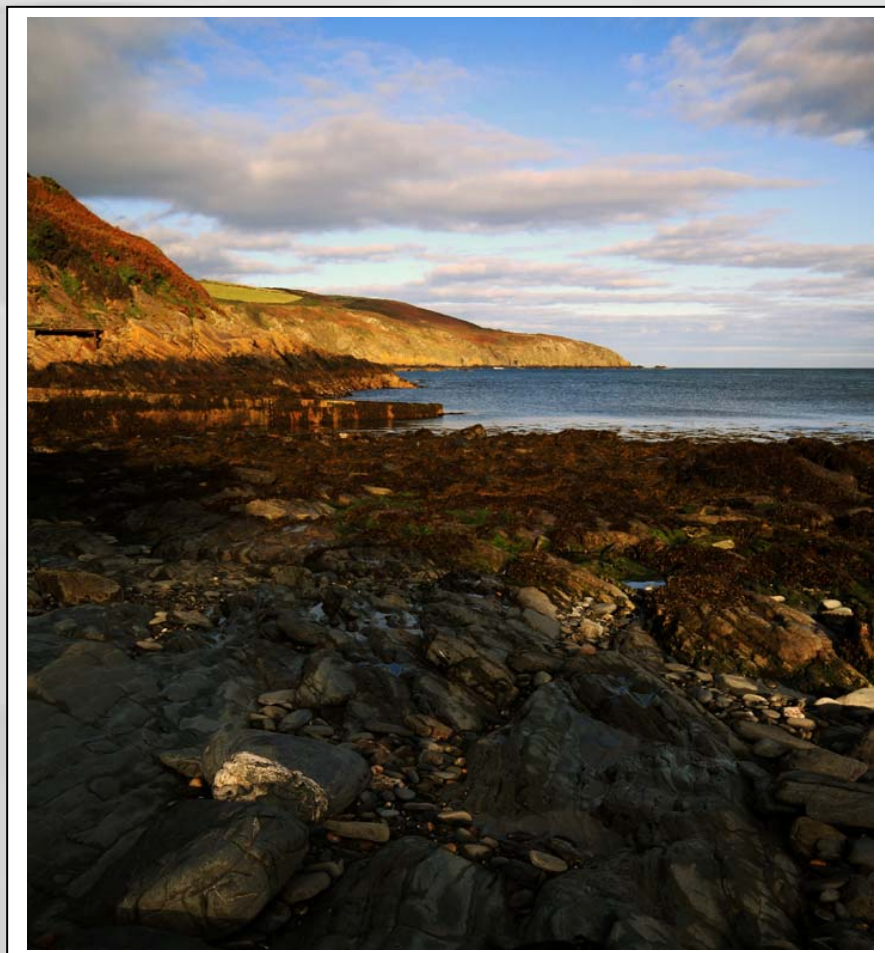
This image identifies the subject of shutter speed and was taken from a ledge on a bridge across the quayside, using my Canon 500D and 18-55mm lens along with tripod and remote control. I almost gave up with this image as the area is usually quite busy at night and there was a lot of vehicular traffic coming towards me from the left of the image which shook the bridge and also flared the shot, so I moved onto a small concrete ledge just in front of the bridge for more stability, and after reviewing the composition and histogram I took many images ranging from 2secs upwards eventually choosing this image which was taken at a focal length of 33mm on F5.6 at 3.2 secs on ISO100 and as the night was so dark I felt the lighting on and around the quay offered an almost sepia tint to the photograph, and also gave a good perspective, and having seen many old pictures of this area which evoked a small, but bustling port, I felt it captured part of its history.



## Learning Outcome 2.

### Visualisation.

The first image I have chosen is a small cove, which is one of my favourite places in the evening. Although on the East of the island I love the light, especially towards the Autumn, and was lucky enough to capture the golden light on the hillside. On this occasion I decided to use my recently acquired, but rarely used Sigma 10-20 mm lens, in tandem with the Canon 500D. I set the camera on the tripod and eventually decided, after many remote controlled shots to opt for the upright image as the light was filtering through the rocks close to me and offering a decent variance of light and perspective. The difficulty using this lens was keeping myself out of some of the shots, as the light was coming over my right shoulder, and as there were hills behind me, the light changed, literally, every few yards. However, once out of the shot I positioned the tripod on the rocks, checked the histogram and opted for the upright composition at a focal length of 20mm. I then waited for the golden light to emerge in front of me to brighten the lower part of the scene, which, initially, was quite dark. This photograph was taken at F8 on 1/250sec at ISO 100.



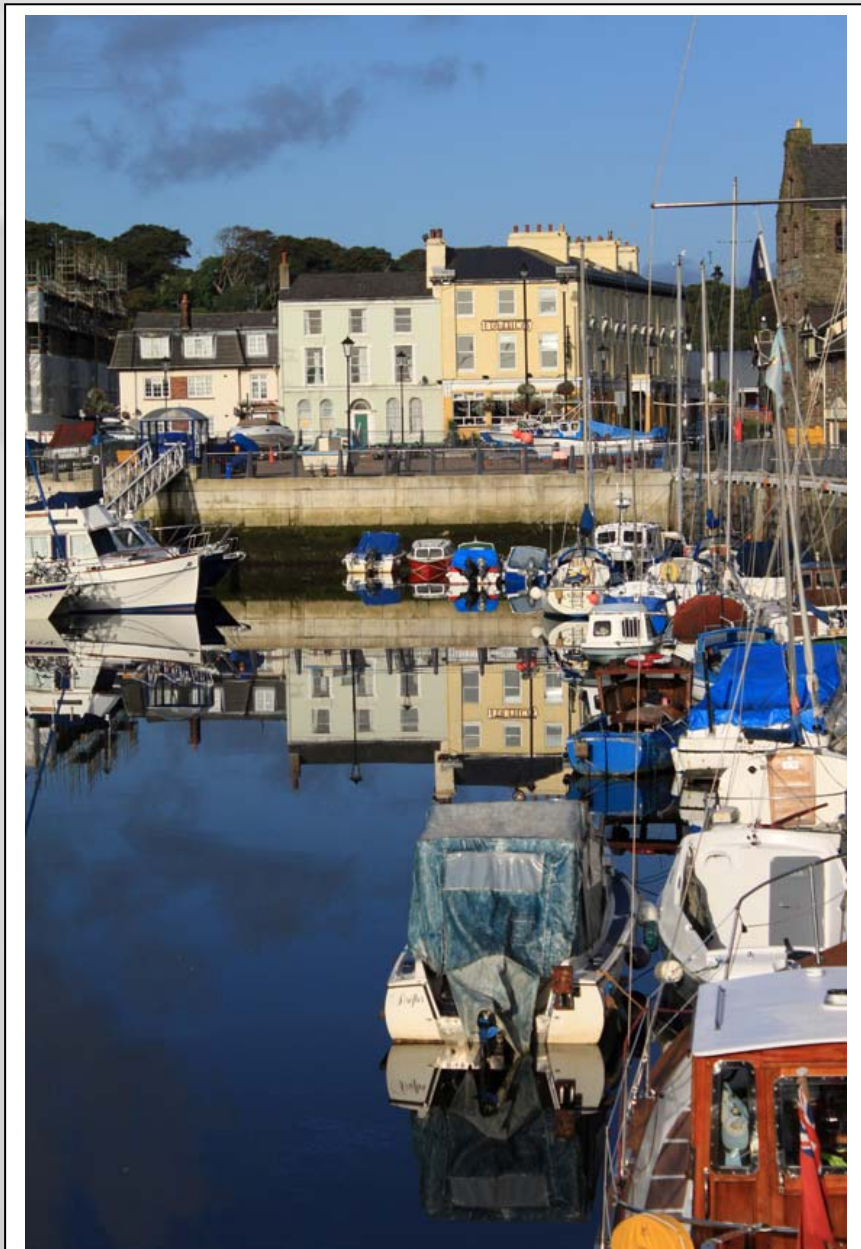
The second image I have chosen is something a little different. It was an idea to give the viewer a “strange “ view on a subject, and maybe a little fun also. So, I had the idea of making an object appear to be “floating “. I placed a large piece of amethyst on the floor, placed a crystal ball inside it and carefully positioned my hand below the ball to give the appearance of the object floating in mid air whilst I shot from above to give the desired effect and balance to the composition. The shot was lit by the sunshine using the Canon 500D and Canon 18-55 mm lens at a focal length of 46mm on a tripod and using a remote control. I finally decided that this was the image that worked best and it was taken on F6 at 1/200sec on ISO 200.



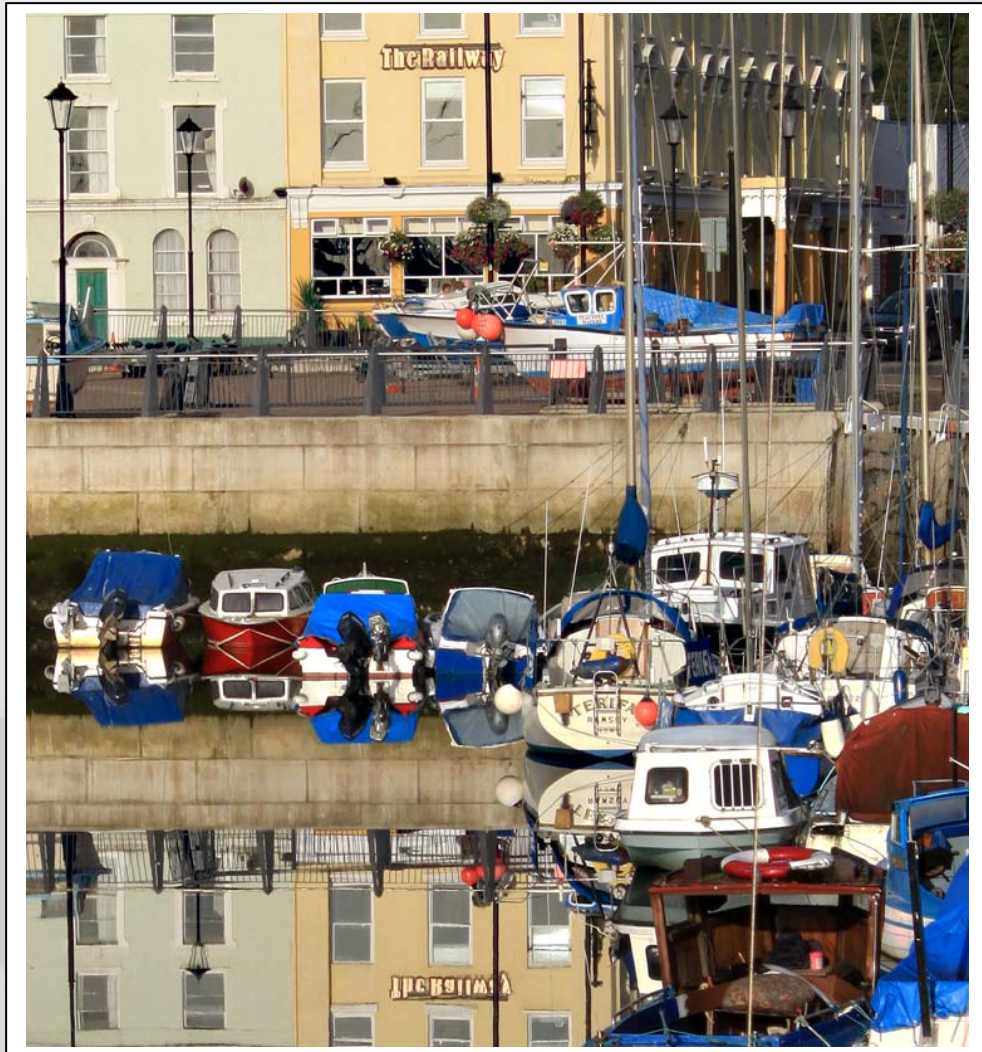
## **Learning Outcomes Four and Six.**

### **Before and After.**

This is the original photograph taken early in the morning as the attraction for me was the clarity of light combined with the reflections in the harbour area as there was not even a breeze which made the scene so much sharper. On this occasion I used my Canon 500D with the 18-55mm lens from the nearest vantage point and could only visualise the final image as I could see exactly what I wanted as an end result, which was a “reflective” image of the Railway Hotel and the vessels moored below, without any distractions, such as the building site at the top left of the image, or the space to the bottom left. The shot was taken on F8 at 1/800sec on ISO200 at a focal length of 55mm.



This was the view I had in my mind's eye, as it was my intention to focus on the hotel, the vessels and most importantly their reflections in the water below. I have cropped the image to give a better balance to the image, and added contrast and a slight sharpening in Photoshop.



This photograph was taken at a local motorcycle race with my Canon 500D using a Sigma 50-500 lens as for practical and safety reasons as one could not get too close to the action. I could not use a tripod on this occasion so, balanced the camera on a wall, as close as I could get. The shot was taken on F 5.6 at 1/4000sec on ISO 800 as the light was rapidly going before the rain arrived. The focal length I chose for the shot was 191mm, and having checked the histogram, I was reasonably happy with the shot.



However, I really wanted to capture not only the element of speed as these riders are travelling at speeds in excess of 150mph, but also the closeness of the racing, so I tightly cropped the shot to that effect, and also contrasted, despeckled, used the curve tool and sharpened the image in Photoshop, hopefully giving the final image the desired effect.



**The monitor resolution** is the measurement of the number of pixels that a computer monitor can show at any one time and is of high importance as it combines the number of pixels to create an image. Each pixel is so small that the human eye cannot distinguish between individual pixels, instead, the eye naturally blends them together to create the image. Monitors that display more pixels offer a sharper, brighter image as the higher the resolution equates to more pixels and makes the image both clearer and sharper. However, the screen resolution is also limited by the graphic card, drivers and monitor. Therefore in conclusion, one requires a good photograph in the first instance.

## **Learning Outcome Five.**

### **Primary, Secondary and Process Colours.**

I have listed below some, but not all, of the various file formats including their pro's and con's for their various usages for both printing and for the Internet.

**JPG, JPEG** (Joint Photographic Experts Group) format is used for colour photographs, or any pictures with many blends or gradients and became popular with the invention of the digital camera. Most, if not all, digital cameras download photos to our computers as a JPEG file, and both the photographer and digital camera manufacturers see the value in high quality images that ultimately take up less space. However, with the lower space of the file it initially lose some details due to the compression methods when the file is recorded from the camera's sensor, and can cause something called "artifacting", where blocks of pixels become miscoloured and produce visible artefacts within the image.

**PSD** (Photoshop Document) is Adobe's format which stores an image with support for most imaging, animating and authoring options available in Photoshop. This is in contrast to many other file formats that restrict content to provide streamlined functions and therefore, due to Photoshop's popularity means the PSD format is widely used and can be exported to and from to make DVD's, provide editing and special effects such as backgrounds and textures. Photoshop is an image editor which can use colour models such as RGB and CMYK ( cyan, magenta,, yellow and key, or black ) and has the ability to read and write image formats such as PNG, GIF and of course, JPEG.

**GIF** (Graphic Interface Format) is a format best used for text, line drawings or cartoons and animation, and is limited to a total of 256 colours or less. It is commonly used for fast loading web pages and also makes good banners for a web page. Animated pictures such as flashing logos are also saved in GIF format and saved as a GIF file.

**PNG** (Portable Networks Graphic) Apparently, this is one of the best image formats, however, it was not always compatible with all web browsers or image software. Now though, it is considered to be the best image format to use for logos and screenshots on websites.

**TIFF** ( Tagged Image File Format ) can store an image and data in one file and stores files with virtually no compression and therefore, is good for storing images that need to be edited and resaved without suffering any loss of compression. TIFF files are commonly used for scanning, faxing and word processing and no longer considered as a common file format to use with digital photography, as the JPEG has greater quality and takes up less space.

**"Adobe RGB" and "sRGB"** refer to Red-Green-Blue colour spaces, 3D graphs enclosing all the possible colours that can be mapped with image files taken of coloured objects. Each colour is defined by the relative contributions of Red, Blue, or Green, and the brightness and saturation (intensity) of the colours that can be represented.

**Adobe RGB** is a larger colour space. That means more of the colours captured with a digital camera, for example, can be accurately mapped into the 3D Adobe RGB colour space, whereas, **sRGB**, by contrast is a smaller colour space. The range of colours that can be accurately mapped in sRGB, is less than that in the Adobe RGB colour space which is one of the reasons why it is used for a lot of the low end commercial print centres as it is less demanding on consumers with low end monitors. The process of altering the coordinates of a colour (RGB values, luminescence and colour intensity) requires advanced knowledge of colour perception. However, viewing a picture on a screen, even with a file in RGB colour, the picture has to be displayed on the screen which doesn't have the refinement to be able to produce a lot of the colours, and therefore, the colours have to be remapped to what the screen can display.

Obviously, the RGB would be considered the greater of the two as it has the larger colour space, and would appear, certainly for the digital photographer, to offer a greater manipulation of images when working in Photoshop.

## **8 or 16 bit?**

At first I thought there would be an obvious answer, however, having read the history I was not totally sure, until I realised those assumptions were based on older technology. As there are more bits in 16 than 8 bit, and therefore more image detail, the images would offer more flexibility in editing, and upon reviewing the more modern technical innovations I realise the first thought was indeed correct, as one of the benefits of using 16 bit would appear to be that certainly in Photoshop CS3 and CS4, for instance, which offers more tools, and therefore, has more capabilities for adjusting and manipulating 16 bit images than the 8 bit. Another consideration would be that as the 16 bit files, which, whilst larger in file size, can be considered better as, with memory being so cheap these days, and the power of the modern PC's the larger file size does not come in to the equation any longer. Also it should be noted that many scanners can scan film in 16 bit and this will capture considerably more information such as colours, tones and details, and whilst 8 bit offers 256 colours and an RGB image of 24 bit, 16 bit gives in excess of 32,000 colours per channel, and an RGB image of 48 bit, which will produce much smoother tonal graduations, and when shooting in RAW, the file should always be in 16 bit for the best quality, as every tonal adjustment made in post production throws away information. In conclusion, wherever possible, save and retouch the image in 16 bit for the best results.

## Learning Outcome 7

### Health and Safety.

Apart from the photographic equipment in the studio, the most important issue is the Health and Safety of your subject/s and to ensure this is correct all electrical equipment should be portable appliance tested, and all wires should be wherever possible, laid in such a way as to avoid trips and/or falls and all lighting should be kept well clear of any backdrops to avoid the risk of fire. The subjects should be made aware of all emergency procedures, and any Staff such be trained in the use of all safety equipment.

In essence, avoid unacceptable and unnecessary risks to the Health and Safety of members of the public by initiating a risk assessment which should evaluate any hazards and take any required actions making sure to record the significant findings, as they may be required in the event of any future issues/problems. So, in conclusion, make the studio a safe a place as possible, and check all equipment is in good working order on a regular basis, always keep good records, and make certain, any Public Liability Insurance is not only up to date, but placed in such a position that everyone can see it, provided of course, that there are employees. Finally, if using chemicals, data sheets should be acquired and followed at all times.

External photography covers so many aspects of Health and Safety. Health, and the weather for instance, requires suitable clothing, foot and headwear, food and drink when on location and differs from season to season. The safety when photographing in such areas as mountainous areas, rocks or any environment which could be considered potentially dangerous. When taking motorsport photographs for instance, listen to the advice of Marshals who will advise of the “safe” or “safest” position/s, and wear a tabard or high- viz clothing to identify yourself. Consider the time of day, the location, the weather conditions and your own safety at all times, and as above take time out to initiate a risk assessment, as if on location there is a problem, for instance, like the light going quicker than expected, that is not a good time to remember your torch is in the car at the other side of the valley, oh, and where’s the map and compass...?.

So, in conclusion, for your own Health and your own Safety, consider the location, the time of year, the time of day, what to wear, and have suitable

food and drink in your bag and always, always have a map, torch, and most importantly always have a mobile phone in your possession and remember to tell someone where you intend going. Effective communication can be a life-saver.

**Post Production** also has to be complied with, or at the very least understood if working from home, as it is encompassed within the Health and Safety Regulations known as Display Screen Equipment ( DSE ), where one should consider positioning of the computer, the risks of physical disorders such as back pain, visual tiredness or even mental fatigue. Once again, a risk assessment is vital to identify and evaluate any risk/s such as adequate lighting, any glare which can be alleviated by the use of blinds, and be reflection free, adequate leg room to allow for postural changes, a usable keyboard which is adjustable, detachable and obviously clean and legible. Noise, wherever possible should be kept to a minimum and all chairs should be both stable and adjustable. Should the user request a footrest, this should be provided. The angle/situation of the computer, and especially the keyboard and mouse is of importance when considering the positioning of the user's forearm and wrists in order to avoid repetitive strain injury/ies. There should be adequate space on the desk area and the user's eyes should be roughly in line with the top of the screen. The working area should be tidy, and not a trip hazard, and the air, heat and noise levels should be acceptable. Finally, the software provided should assist the user carry out their relevant tasks to respond quickly, with adequate help, minimise stress, and be user-friendly.