



Programme Module

Digital Photography

leading to

Level 3 QQI Component: Digital Photography 3N0791

Please note the following prior to using this programme module descriptor:

- This programme module can be delivered as a stand alone module or as part of the:
 1. **Level 3 QQI Certificate in General Learning 3M0874**
 2. **Level 3 QQI Certificate in Employability Skills 3M0935**
 3. **Level 3 QQI Certificate in Information and Communication Technologies 3M0877.**
- Upon successful completion of this programme module the learner will achieve 10 credits towards the Level 3 QQI Certificates in General Learning, Employability Skills or Information and Communication Technologies.
- The learner needs to accumulate a minimum of 60 credits in order to achieve the Level 3 QQI Certificates in General Learning, Employability Skills or Information and Communication Technologies.
- Teachers/tutors should familiarise themselves with the information contained in CDETb's programme descriptor for Everyday Living Skills, Skills for the Workplace or Introduction to Information and Communication Technologies prior to delivering this programme module.
- In delivering this programme module teachers/tutors will deliver class content in line with the Guidelines for Teaching and Learning included in this programme module.
- In assessing the learner, teachers/tutors will assess according to the information included in this programme module. Teachers/tutors will devise Assessment Brief/s for the Collection of Work and Skills Demonstrations.
- Where overlap is identified between the content of this programme module and one or more other programme module(s), teachers/tutors are encouraged to integrate the delivery of this content
- Where there is an opportunity to facilitate the learner to produce one piece of assessment evidence which demonstrates the learning outcomes from more than one programme module, teachers/tutors are encouraged to integrate assessment.

Overview of the Programme Module

The Programme Module is structured as follows:

Section 1 to 8: contains important information for the teacher/tutor about the credit value, title, code, etc. of the programme module.

Section 9: details the learning outcomes prescribed for the programme module by QQI. These outcomes are set by QQI and cannot be changed in any way by the CDETb or individual teachers/tutors.

Section 10: outlines suggestions and guidelines for teaching the module. It contains useful information and ideas for teachers/tutors and can be helpful in clarifying learning outcomes.

Section 11: contains the relevant information in relation to the assessment of the module. As the teacher/tutor is the assessor of the work, this section is essential reading.

Section 11a specifically prescribes the way in which learners are required to present evidence for assessment.

Learner Marking Sheet: this is the marking sheet that must be attached to the assessment portfolio and signed by the teacher/tutor and the learner.

Programme Module	Award
1. Title of Programme Module Digital Photography	2. Component Name and Code Level 3 Digital Photography 3N0791
3. Duration in Hours of Programme Module 100	4. Credit Value 10
5. Assessment Technique Collection of Work 100 %	6. Specific Requirements Learners must have access to a digital camera.
7. Aims of the Programme Module <p>This programme module aims to equip the learner with the knowledge, skills and competence to operate a digital camera for use in their social, personal and work life and to encourage the learner to have the confidence to use these skills in their daily lives.</p> 8. Objectives <ul style="list-style-type: none"> • to learn about the features of a digital camera • to learn how to operate a range of features on a digital camera • to learn how to effectively compose and display digital photographs using a range of techniques. 	
9. Learning Outcomes of Level 3 Digital Photography 3N0791 <p>The learner will be able to:</p> <ol style="list-style-type: none"> 1. list a range of features of digital cameras to include pixels, LCD screen, lens types, white balance, optical zoom, digital zoom, focus, exposure, memory, burst mode, flash type, compression, self timer, battery life, power source and accessories 2. explain menu functions of a digital camera 3. explain the term aperture and how it is measured 4. describe the key elements of effective composition 5. describe the common faults when using a digital camera 6. demonstrate how to prepare a camera for use to include cleaning, software installation, and battery check. 7. operate a camera to take photographs selecting the correct ISO settings, aperture priority and shutter priority modes 8. display a range of photographs mounted correctly. 	
Delivery Strategies and Learning Activities <p>The programme module could be delivered through classroom-based learning activities, team work, group discussions, one-to-one tutorials, field trips, case studies, role play and other relevant activities.</p>	
10. Guidelines for Teaching and Learning <p>Please note: the following guidelines suggest a sequence for the teaching of this module. In some cases, this may differ from the sequence of learning outcomes as outlined in section 9.</p>	

Unit 1: Digital Photography Features

1. Digital Photography Features

*In order to help the learner achieve **Learning Outcome 1** in particular, consider doing the following:*

Explore with the learner the features of digital photography, using digital cameras, video/web clips and other relevant material.

1.1 Pixels

A pixel is a Picture Element and is a single point on a graphic image. Each pixel contains a series of numbers which describe its colour or intensity. A Megapixel is one million pixels. If you want to print large photographs you need at least 5 to 8 Megapixels on your digital camera.

1.2 LCD Screen

LCD means Liquid Crystal Display. This is the screen on the camera. It is used as a viewfinder and a review screen for photos taken. The LCD screen can be turned off to save battery power.

1.3 Lens type

There are several types of digital camera lens including optical zoom lens, digital zoom lens, and interchangeable lenses. An optical zoom lens is a true lens. The focal length changes and the lens zooms in and out of the camera so the image is magnified by the lens itself. A digital zoom is a simulated zoom and is not a true zoom. A digital zoom enlarges a portion of the image and the length of the lens does not change. Digital zooms produce images with reduced quality. Additional interchangeable lenses can be bought and attached to digital cameras, for example, a telephoto lens that can capture photos of good quality from a distance.

1.4 White Balance

White balance refers to the amount of colour white in a digital image. Regardless of the lighting, white areas should look white. White balance adjusts the colour balance electronically, and can be adjusted using menu options on a digital camera. Depending on the age and make of the camera, options can include turning white balance on or off or adjusting it to Daylight, Cloudy, Tungsten, Fluorescent and Automatic. What the options are called depends on the make of the camera.

1.5 Focus

Depending on the make of the camera, there can be two modes of focus – manual focus and auto focus. Auto focus will handle the focus for you which may or may not result in the desired effect. Manual focus is when you control the focus yourself, for example, you may want an object or person in focus that is far away and those nearer to the camera out of focus or vice versa. Using the manual focus needs practice.

1.6 Exposure

Exposure refers to the amount of light in an image whether it is too dark or too light. Over-exposure refers to too much light in an image causing it to be very bright with tones of white and light greys. Light in an image is controlled by the lens and aperture.

1.7 Memory

Memory cards come in a variety of brands; examples include SanDisk and Compact Flash. Which brand you need depends on the make of the camera. Memory is now affordable and can range in sizes from less than 1 GB up to 32GB (or more depending on time of course). The larger the memory, the more photos/videos you can store.

1.8 Burst Mode

Burst mode refers to continuous shooting of a subject. In this mode, several images can be captured with one press on the shutter. This option may not be available on all cameras. Burst mode is used if the subject is moving

or in mixed light conditions. The user can then select the best image(s) after the photo is taken.

1.9 Flash Type

Most digital cameras have an in-built flash which can have several modes. The most common modes are automatic, on and off. If the flash is set to automatic the camera controls if a flash fires. The user controls the on or off mode.

1.10 Compression

Digital cameras store images in a compressed file of type .jpeg. Some other file types are also used. When images are compressed, the file size becomes smaller allowing more photos to be stored on a camera. Digital cameras provide a variety of compression levels: Super Fine, Fine, Normal and Basic. The terms vary among manufacturers.

1.11 Self Timer

Most modern digital cameras have a self timer. The self timer can be set on the menu options on the camera. The delay can range from 2 seconds up to 10 seconds. It is usually used when the photographer wants to take a photo of themselves perhaps with family. Using a tripod with a camera and availing of the self-timer option reduces the camera shake.

1.12 Battery Life

Normal AA or AAA batteries can be used in a digital camera. However, it is best to buy a model that has a lithium, *ion* rechargeable battery. Normal batteries (AA or AAA) do not last long and can sometimes run out half way through an event. To prolong battery life, turn the camera off when not using. You can also turn off the LCD screen on a digital camera to prolong battery life.

1.13 Power source

Digital cameras that have ion batteries will also come with a power pack or recharger. The ion battery is removed from the camera and placed in the recharger that can then be plugged into a socket to recharge the battery. Most rechargers will have a light; the light is red if the battery is not fully recharged and green if it is fully charged.

1.14 Accessories

There are many accessories that can be bought to improve a digital camera system. Accessories can vary in price and quality. There are many accessories including;

1.14.1 A carry case will protect the camera if it is dropped and it can also act as storage for memory cards, cables to connect to a computer, rechargers, batteries, etc.

1.14.2 You can mount a digital camera on a tripod. Using a tripod can reduce camera shake. You will often see professional photographers use tripods in a studio setting.

1.14.3 Digital photo frames are now widely available. A memory card holding digital photos can be inserted into a digital frame. A slideshow of photos are then displayed on the frame.

1.14.4 Small photo printers can be attached directly to a digital camera eliminating the need for a computer.

Unit 2: Menu Functions of a Digital Camera

2. Menu Functions of a Digital Camera

*In order to help the learner achieve **Learning Outcome 2** in particular, consider doing the following:*

Explore the menu functions with the learner, by setting various combinations on their camera.

There may be different menu options on digital cameras. Most good cameras will have the following options:

- Date and Time – set this correctly as this information will be held in the photo
- Review – set the time a photo will display for review once taken
- Power saving – when on this will save battery power
- Formatting – allows you to format the memory card while in the digital camera
- Flash setting – can set red eye reduction
- LCD brightness – reducing the brightness will prolong battery power.

Unit 3: Aperture

3. Aperture and how it works

*In order to help the learner achieve **Learning Outcome 3** in particular, consider doing the following:*

- Examine the camera and try setting apertures
- Discuss and compare the differences aperture setting can make to pictures taken.

The camera's aperture (a hole) controls the amount of light that is captured when taking a digital photo. The aperture is measured in F-stops. The smaller the F-stop, the larger the lens opening. Most simple point and shoot cameras have a fixed size aperture. Some digital cameras will allow you to change the aperture using pre-set options such as portrait or landscape.

Unit 4: Composition

4. Effective composition of a photograph

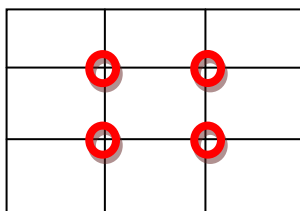
*In order to help the learner achieve **Learning Outcome 4** in particular, consider doing the following:*

- Discuss with the learner different aspects of composition using pictorial examples of 4.1 – 4.6
- Explore aspects such as framing, rules of thirds by cropping pictures with a blank card or on the computer to improve composition.

There are numerous techniques and tips you can follow when composing digital photographs. The following are some basic techniques:

4.1 Rule of thirds

The basic principle behind the rule of thirds is to imagine breaking an image into thirds (both horizontally and vertically) so that you have 9 parts or four lines that intersect. Research shows that people view photos by looking at the intersecting points of the lines (see red circles in image below). The theory is that if you place points of interest in the intersections or along the lines, your photo becomes more balanced and will enable a viewer of the image to interact with it more naturally.



4.2 Symmetry and Patterns

The use of patterns is another prevalent aspect of composition. Patterns exist all around us. Capturing and highlighting these patterns can often result in incredible photographs, as can highlighting the breaking of a pattern. Depending on the scene, the use of symmetry can either make or break a photograph. Images with a strong composition and a good point of interest can benefit hugely through the use of symmetry.

4.3 Framing

The world is full of objects which make perfect natural frames, such as trees, archways and holes. By placing these around the edge of the composition you help to isolate the main subject from the outside world. The result is a more focussed image which draws your eye naturally to the main point of interest.

4.4 Lines

The use of lines can be a powerful element when composing an image. Leading lines are used in photography to lure the viewer's eyes further into the photograph, and generally towards the main subject. The lines can be anything from straight, to curved, to diagonal or vertical, or converging. It takes practice, but once you can spot and utilize lines correctly, it can greatly strengthen your images.

4.5 Depth

The depth of field used in an image can drastically affect the composition of a photograph. This is especially true when using a shallow depth of field by isolating the subject from the background. Similarly, using a wide depth of field puts the subject into context by bringing out more detail in its surroundings.

4.6 Viewpoint

Viewpoint has a massive impact on the composition of a photo. Rather than just shooting from eye level, consider photographing from high above, down at ground level, from the side, from the back, from a long way away, from very close up, and so on.

Unit 5: Common faults

5. Common faults when using a digital camera

*In order to help the learner achieve **Learning Outcome 5** in particular, consider doing the following:*

- Discuss with the learner a range of common faults, using a range of examples
- Facilitate the learner to practise holding the camera and using various settings to eliminate common faults.

5.1 Camera Shake

Camera shake is very common and can limit the quality of photos. Some digital cameras will have inbuilt functions to limit the effect of shaky hands. Knowing how to hold a digital camera is also important, for example, knowing not to cover the lens with your fingers.

5.2 Red Eye

Red eyes can occur in photographs when using a flash. Most modern digital cameras have a menu option that will remove red eye when the flash occurs. If the camera does not have this option there are many software titles both free and commercial that will remove red eye from photographs.

5.3 Incorrect Lighting

Until you practise with all options on a camera, you may not get the desired quality in a photograph. Incorrect lighting can occur if certain modes are not set properly, for example, a daylight setting for a photo taken at night will not reflect what you see.

5.4 Blur

Getting the focus incorrect or moving the camera can blur a photograph. Practise using modes and settings will eliminate blur in photos.

Unit 6: Preparing the camera

6. Demonstrate the preparation of a digital camera

*In order to help the learner achieve **Learning Outcome 6** in particular, consider doing the following:*

- Demonstrate for the learners the steps to follow when cleaning a camera, installing the software for a digital camera and checking the battery life
- Facilitate the learner to practise on a camera the following techniques

6.1 Cleaning a camera

Digital cameras require consistent cleaning to keep the camera operational and to make sure you take the best pictures possible. Small point and shoot digital cameras have little to clean. The exterior needs to be kept clean with camera cloth or other lint free cloth. The front lens element needs to be cleaned with canned air to keep it dust free. The eyepiece and front lens element should be periodically cleaned with lens tissue and lens cleaner.

6.2 Installing software

If learners do not have the digital software on CD, demonstrate how to locate the software on the internet and download and install the software. Alternatively, use free open source software available on the internet, for example, Picasa from Google.

6.3 Checking Battery Life

Checking battery life will depend on the make of the digital camera. Usually an image of a battery is displayed on the LCD screen. Lines are displayed within the image to visually display the battery life. If the battery is full the image is full of lines, etc.

Unit 7: Operating a digital camera

7. Operating a digital camera

*In order to help the learner achieve **Learning Outcome 7** in particular, consider doing the following:*

- Discuss with learner the reasons for setting ISO, aperture and shutter speed
- Demonstrate for the learner how to set ISO settings, aperture settings and shutter priority modes
- Explain how simpler digital cameras (not SLR) have settings for landscape/ macro/ sports that are the equivalent of setting the aperture or shutter speed
- Facilitate the learner to practise the various settings.
- ISO refers to film speed (or equivalent). The ISO determines how sensitive the image sensor is to light. The most common speeds are 100, 200, 400 and 800. Values can go higher. The lower the number, the slower the speed. General tips include:
 - Use an ISO of 100 or 200 when taking photographs outside in sunny conditions
 - If the sky is overcast or it is evening time, then use an ISO within the range of 400 to 800

- Night time or in cases of low light you might need to set your digital camera ISO to 1600. If you don't then your photo will appear too dark, if at all
- Aperture priority (AV mode)
 - Setting aperture priority mode allows a person to choose a specific aperture while the camera selects a shutter speed thus ensuring proper exposure
 - The main purpose is to control the depth of field
- Shutter priority mode (TV or S mode)
 - Setting shutter priority allows a person to choose a specific shutter speed while the camera selects an aperture speed
 - The main purpose is to choose a shutter speed best for the subject e.g. very fast shutter speeds for moving objects and in good light, slow shutter speeds for still life, portraits and low light

Unit 8: Display photographs

8. Display photographs

*In order to help the learner achieve **Learning Outcome 8** in particular, consider doing the following:*

- Explore with the learners different ways to display digital photographs and materials needed including canvas prints, poster prints, digital frames, board mounts, photo albums, frames, adhesive, etc.
- Demonstrate how to mount a photograph on board mounts.

11.a Specific Information Relating to the Assessment Techniques

The assessor (Teacher/Tutor) is required to devise Assessment Brief/s for the Collection of Work and Skills Demonstration. In devising the Assessment Brief/s, care should be taken to ensure that the learner is given the opportunity to show evidence of ALL learning outcomes. Each learner is required to work alone in completing the Collection of Work. There is no facility for this Collection of Work to be completed as a group.

Evidence that the learner has achieved the learning outcomes may take a variety of forms including tutor verification of the learner’s contribution, learner worksheets, diagrams, cloze tests, multiple choice statements, visual presentation or other appropriate evidence in the form of written, oral, graphic, audio, visual or any combination of these. Any audio or visual evidence must be provided in a suitable format. All of the evidence must be retained in the learner’s assessment portfolio.

Collection of Work	100%
<p>The Collection of Work may be produced throughout the duration of this programme module. It must be clearly indicated where evidence covers more than one learning outcome.</p>	
<p>The learner will compile a Collection of Work which includes evidence of tasks that demonstrate:</p> <ul style="list-style-type: none"> • Knowledge of a list of digital photography features • Knowledge of basic menu functions on a digital camera and skills to use them • Knowledge and understanding of the term aperture and what it is • Knowledge of key problems when using a digital camera • Knowledge and skills to clean a digital camera, install software and to check the battery on a camera. <p>The learner should also produce 4 photographs to specification that demonstrate knowledge of the following:</p> <ul style="list-style-type: none"> • Effective use of a range of digital camera features (flash modes, white balance and focus) – a combination of a variety features across all 4 photographs • Effective composition of a photograph (all photographs) • ISO settings (at least 2 photographs) • Aperture settings (at least 1 photograph) • Shutter speed settings (at least 1 photograph) • Mounting techniques for all photographs. <p>The learner should evidence techniques and/or features used.</p>	

11.b Assessment - General Information – Digital Photography 3N0791

All instructions for the learner must be clearly outlined in an Assessment Brief.

Mapping Each Learning Outcome to an Assessment Technique

Learning Outcome	Assessment Technique
1. List a range of features of digital cameras to include pixels, LCD screen, lens types, white balance, optical zoom, digital zoom, focus, exposure, memory, burst mode, flash type, compression, self timer, battery life, power source and accessories.	Collection of Work
2. Explain menu functions of a digital camera.	Collection of Work
3. Explain the term aperture and how it is measured.	Collection of Work
4. Describe the key elements of effective composition.	Collection of Work
5. Describe the common faults when using a digital camera.	Collection of Work
6. Demonstrate how to prepare a camera for use to include cleaning, software installation, and battery check.	Collection of Work
7. Operate a camera to take photographs selecting the correct ISO settings, aperture priority and shutter priority modes.	Collection of Work
8. Display a range of photographs mounted correctly.	Collection of Work

Grading

At Level 3 a learner is graded as Successful or Referred.

Successful means that ALL the learning outcomes from the Component Specification have been demonstrated to an appropriate standard in the learner's portfolio of assessment.

Referred means that the portfolio of assessment needs further work by the learner before s/he can demonstrate the standard and achieve certification from QQI.


Level 3 Digital Photography 3N0791
Learner Marking Sheet

Learner's Name: _____

Learner's PPSN: _____

The learner will be able to:	Evidence of the following is included in the assessment portfolio:	<input checked="" type="checkbox"/> If present in portfolio	Please indicate where evidence is to be found
1. List a range of features of digital cameras to include pixels, LCD screen, lens types, white balance, optical zoom, digital zoom, focus, exposure, memory, burst mode, flash type, compression, self timer, battery life, power source and accessories	Explain the following features: <ul style="list-style-type: none"> • Pixels • LCD Screen • Lens type • White Balance • Optical zoom • Digital zoom • Focus • Exposure • Memory • Burst Mode • Flash Type • Compression • Self Timer • Battery Life • Power source • Accessories 		
2. Explain menu functions of a digital camera	Explain the following menu functions <ul style="list-style-type: none"> • Date and Time • Review • Power saving • Formatting 		

	<ul style="list-style-type: none"> • Flash setting • LCD brightness 		
3. Explain the term aperture and how it is measured	Explain and define the term <ul style="list-style-type: none"> • Aperture 		
4. Describe the key elements of effective composition	Describe the following, with examples <ul style="list-style-type: none"> • Rule of thirds • Symmetry and Patterns • Framing • Lines • Depth • Viewpoint 		
5. Describe the common faults when using a digital camera	Describe the following <ul style="list-style-type: none"> • Camera Shake • Red Eye • Incorrect lighting • Blur 		
6. Demonstrate how to prepare a camera for use to include cleaning, software installation, and battery check	Understand and demonstrate <ul style="list-style-type: none"> • How to clean a digital camera • How to install digital camera software • How to check battery life 		
7. Operate a camera to take photographs selecting the correct ISO settings, aperture priority and shutter priority modes	Understand and operate a camera including <ul style="list-style-type: none"> • How to select ISO settings • How to set aperture priority • How to set shutter priority 		
8. Display a range of photographs mounted correctly.	Four different photographs from the learners own work, produced and mounted.		

This is to state that the evidence presented in the attached portfolio is complete and is the work of the named learner.

Learner's Signature: _____

Date: _____

Assessor's Signature: _____

Date: _____

External Authenticator's Signature: _____

Date: _____