

# Unit 23: Photographic Media, Techniques and Technology

<b>Unit code:</b>	<b>Y/502/5750</b>
<b>QCF Level 3:</b>	<b>BTEC National</b>
<b>Credit value:</b>	<b>10</b>
<b>Guided learning hours:</b>	<b>60</b>

## ● Aim and purpose

The aim of this unit is to develop learners' skills, knowledge and understanding of the ways in which different photographic media, techniques and technology contribute to the creation of imaginative photographs. Learners will generate ideas and use photographic media, techniques and technology when creating their own photographs.

## ● Unit introduction

Photographers use a range of skills when working professionally, which will have been developed over a period of time, through learning and personal experience. A photographer's choice of materials, techniques and technologies will often provide their work with a unique identity or recognisable character. In some ways this becomes the photographer's trademark. Many of these materials, techniques and technologies have health and safety guidelines on good working practice and photographers need to be aware of these and also of any changes and updates. This knowledge allows them to minimise the potential of harming themselves and others. Professional photographers use digital photography equipment and processes extensively in studio photography and design-related work. In this unit learners may be able to explore some of the qualities of both film-based and digital photography.

Learners will be encouraged to investigate a range of different photographic materials, media, techniques and associated technologies. Emphasis will be on practical exploration, with learners working through as wide a range of media as possible. In working directly with materials and processes learners will be able to form responses and reach conclusions about the characteristics and properties of photographic media. This will help them choose working practices that are appropriate to their intentions, and that best suit their creative interests.

Learners will be taught how to use equipment and materials safely. They will need to keep a record of all relevant health and safety guidance and to show an awareness of legislation that applies to activities in this area. In this way they will be building up a valuable store of important information. The unit also offers the opportunity for learners to explore the similarities and differences between film-based and digital photography. They may be able to use film single lens reflex and digital single lens reflex (SLR and DSLR) cameras to experience the similarities between the two types, such as exposure control and interchangeable lenses. They may also be able to experience the differences by processing and printing film-based black and white photographic images, and comparing this with downloading digital-based imagery and using image manipulation software to produce images.

As learners progress through the unit they will evaluate and analyse their working practice. They need to describe the properties and working characteristics of the photographic media that they have used and explored. They will review their work in terms of the visual impact of any final piece/s, use of techniques, and other relevant aspects such as adherence to health and safety guidelines. This will provide an opportunity for them to gain valuable insights into photographic media and techniques, and form conclusions about their preferences in photography.

## ● Learning outcomes

**On completion of this unit a learner should:**

- 1 Be able to investigate photographic media, techniques and technology
- 2 Be able to use photographic media, techniques and technology safely
- 3 Know about the characteristics and properties of photographic materials
- 4 Understand own use of photographic media, techniques and technology.

# Unit content

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## 1 Be able to investigate photographic media, techniques and technology

*Photographic materials:* eg light sources (artificial, natural), cameras (digital, film-based), lenses (wide angle, telephoto, zoom, close-up), film (black and white, colour, negative, positive), photographic paper, printers (inkjet, dye sublimation), printing paper, processing chemicals, toning chemicals, dyes, inks, photo-finishing media, image handling software, computers, output devices, printers

*Photographic processes:* eg image capture, recording, image manipulation, editing, capturing movement, focusing, depth of field, calculating exposures, film processing, digital input, output, darkroom techniques, organising, storing, backing up, retrieving, photo finishing, image transfer

## 2 Be able to use photographic media, techniques and technology safely

*Health and safety:* eg apply safe working practices when using darkroom, investigate legislation in the Health and Safety at Work Act (1974), the Control of Substances Hazardous to Health (COSHH) Regulations (2002), the Provision and Use of Work Equipment Regulations (1998), Health and Safety (Display Screen Equipment) Regulations 1992, record notes and guidance of tutor demonstrations, conduct basic risk assessments

## 3 Know about the characteristics and properties of photographic materials

*Characteristics and properties:* eg light sensitivity, digital, analogue, colour space, colour gamut, film types, film speeds, emulsion coatings, natural light, studio lighting, available light, processing chemicals, exposure (correct, over, under, compensation), photographic papers (resin coated, fibre-based), printing papers (inkjet, dye sublimation), screen-based (projected, CRT, LCD, hand-held device)

*Pre-production:* ideas generation eg current, past practice, commercial, art; client requirements eg intended audience, format, cost, constraints (time, technical, commercial); ideas development eg creative intention, content, styling, layout, roughs, lighting plans, ideas refinement, test images; planning eg technology selection (capture devices, light sources, output); media selection

*Production techniques:* controls during capture eg perspective, viewpoint, lens effects, shutter speed, aperture, exposure calculation, filter effects, lighting, cropping, contrast; formal elements eg line, colour, contrast, pattern, shape; controls during processing eg digital processing, digital manipulation, chemical manipulation (film/developer combination, push/pull processing, chemical after treatments)

## 4 Understand own use of photographic media, techniques and technology

*Own use:* eg suitability of materials, specific purposes, intentions, responses, tests, experiments, using characteristics of materials, use of techniques, control of lighting, colour, tone, hue, saturation, comparisons (different materials and processes, current practice, past practice), use of software, cropping, adjusting levels, contrast, visual impact, use of formal elements, client requirement, intended audience, aesthetic qualities, technical qualities, technical competency, fitness for purpose

## Assessment and grading criteria

In order to pass this unit, the evidence that the learner presents for assessment needs to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria for a pass grade describe the level of achievement required to pass this unit.

Assessment and grading criteria		
To achieve a pass grade the evidence must show that the learner is able to:	To achieve a merit grade the evidence must show that, in addition to the pass criteria, the learner is able to:	To achieve a distinction grade the evidence must show that, in addition to the pass and merit criteria, the learner is able to:
<b>P1</b> investigate photographic media, techniques and technology [IE, RL, CT]	<b>M1</b> investigate effectively, a diverse range of photographic media, techniques and technology	<b>D1</b> investigate independently, a comprehensive range of photographic media, techniques and technology
<b>P2</b> use photographic media, techniques and technology safely [SM, CT]	<b>M2</b> use coherently, a diverse range of photographic media, techniques and technology safety	<b>D2</b> use innovatively, a comprehensive range of photographic media, techniques and technology safety
<b>P3</b> list the characteristics and properties of photographic materials [IE, RL, CT]	<b>M3</b> describe the characteristics and properties of a diverse range of photographic materials	<b>D3</b> describe in detail with correct terminology, the characteristics and properties of a comprehensive range of photographic materials
<b>P4</b> discuss own use of photographic media, techniques and technology. [RL, CT]	<b>M4</b> analyse own use of photographic media, techniques and technology.	<b>D4</b> evaluate own use of photographic media, techniques and technology.

**PLTS:** This summary references where applicable, in the square brackets, the elements of the personal, learning and thinking skills applicable in the pass criteria. It identifies opportunities for learners to demonstrate effective application of the referenced elements of the skills.

<b>Key</b>	IE – independent enquirers	RL – reflective learners	SM – self-managers
	CT – creative thinkers	TW – team workers	EP – effective participators

# Essential guidance for tutors

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## Delivery

For this unit learners should have access to appropriate photographic media and technology for image recording and capture, including image capture devices and lighting equipment. Technology for image processing and output will depend on the chosen media and may include access to computers with appropriate software together with digital or traditional darkroom processing and printing facilities.

For successful delivery of this unit practical exploration of photographic media, techniques and technology should be undertaken with awareness of current vocational practice. Decisions about the emphasis placed on digital and traditional film-based photography media, techniques and technology can best be managed with consideration of preparation for the workplace. The health and safety requirements of working with photographic media, techniques and technology should be emphasised. Learners should be encouraged to develop personal approaches when exploring photographic media, techniques and technology. Effective use of visual language is essential in making photographs which communicate successfully.

For learning outcome 1, learners need to understand different photographic media to enable them to judge the suitability of different media, for specific purposes. To reach informed decisions about the suitability of photographic media learners also need to consider the techniques associated with handling media. Tutors may introduce learners to different techniques through demonstration and the provision of activities or briefs which allow learners to handle different media. It would be useful to allow learners to experience both film-based and digital image production so that they can judge them based upon personal experience. Learners can research information about different photographic media types and identify key characteristics whilst testing the qualities of different media and techniques.

For learning outcome 2, while learners are exploring and investigating the properties and characteristics of photographic media they need to learn how to work safely. The hazards associated with display screen equipment film-based photography must be considered and understood. As learners explore media and techniques their ideas and observations should be collated and recorded in their workbooks together with relevant health and safety information. This will enable learners to reflect on their investigations and justify the suitability of selected photographic media showing awareness of the associated techniques.

Learners need to understand the importance of pre-production techniques in the creation of photographs. Learners should be encouraged to develop personal approaches when developing ideas and creating photographs. Tutors need to devise a structured process of tutorial, group discussion and presentation to support learners in maintaining their focus on the identified purpose whilst generating, developing and refining ideas. Learners can present their ideas through workbooks giving examples of published photographs that demonstrate use of photographic techniques. This will enable learners to reflect on contextual reference material and vocational practice when arriving at their own creative solutions. Learners need to apply a range of production techniques to realise their planned intentions when creating photographs. Tutors should demonstrate production techniques to support learners in their skills development and enable them to use a range of skills confidently. Tutors may also support learners through group critiques and one to one tutorials where learners present and review practical work in progress. Learners should use their workbooks to record their successes and areas for development whilst they progress their work. Presentation and review may include the way learners have used techniques, skills acquisition and understanding of different media and technology. Learners should also reflect on their ability to realise their creative intentions.

For learning outcome 3, photographic technology can be approached in combination with media and techniques and learner investigation stimulated through the same activities or briefs. Tutors should demonstrate the use of different technology to enable learners to appreciate the key characteristics. Learners should use their workbooks to record their findings resulting from practical experience and collate researched published information. The information gathered will enable learners to show what they have learned and provide reference material for them to describe the suitability of selected photographic technology for making photographs for identified purposes.

For learning outcome 4, when reviewing their own use of photographic materials, techniques and technology, learners need to reflect on both process and product. Learners may need support to enable them to reflect on their own engagement with photographic production as a process. Learners should describe, through workbook and oral presentation, their own use of photographic materials, techniques and technology. Tutors should establish an ongoing structured approach to critique to encourage an evaluative approach to working practices. A similarly structured ongoing approach may assist learners in focusing their reflections on their final outcome with reference to creative intention.

## Outline learning plan

The outline learning plan has been included in this unit as guidance and can be used in conjunction with the programme of suggested assignments.

The outline learning plan demonstrates one way in planning the delivery and assessment of this unit.

Topic and suggested assignments/activities and/assessment
Introduction to unit and structure of the programme – whole class.
Creating photographs using photographic techniques – whole class.
Photographic media – whole class.
Photographic technology – whole class.
Review own use of photographic materials, techniques and technology – whole class.
<p><b>Assignment 1:</b> Create Book/CD Cover/Website Home Page</p> <p>Learners individually plan and produce photographs for an identified purpose, collating evidence of exploration in their sketchbook.</p> <p>Pre-production techniques.</p> <p>Identify purpose: client requirement, target audience.</p> <p>Generate ideas: analysis of researched images, identification of techniques, identification of own technical and aesthetic preferences.</p> <p>Develop ideas: reflection upon creative intentions.</p> <p>Plan: media, technology selection, preparations and priorities.</p> <p>Presentation: ideas for own photographs.</p> <p>Production: apply production techniques.</p> <p>Review: own use of photographic materials, techniques and technology.</p>

## Topic and suggested assignments/activities and/assessment

### Assignment 2: Technical Workbook

Learners work in small groups to prepare an individual media, techniques and technology research folder to include:

- Researched material with learner annotation and summaries of:
  - ◇ selected photographic media
  - ◇ selected photographic technology
  - ◇ selected photographic techniques.
- Summaries of the suitability of selected photographic media showing awareness of photographic techniques.
- Description of the suitability of selected photographic technology for making photographs for identified purposes.

### Assignment 3: Create Product Advert

Learners individually plan and produce photographs for an identified purpose, collating evidence of exploration in their sketchbook.

Pre-production techniques:

Identify purpose; client requirement, target audience.

Generate ideas; analysis of researched images, identification of techniques, identification of own technical and aesthetic preferences.

Develop ideas: reflection upon creative intentions.

Plan: media, technology selection, preparations and priorities.

Presentation: ideas for own photographs.

Production: apply production techniques.

Review own use of photographic materials, techniques and technology.

## Assessment

To achieve a pass grade, learners must articulate a correct review of the suitability of selected photographic media for identified purposes. Enquiry and exploration may be demonstrated in collated information in workbooks. Workbook content may include annotated research material, for example manufacturers' reviews and editorial articles in periodicals, together with explanations and some review of own practical experiences. At pass grade the level of detail in the review can be limited to the essential characteristics of the media.

The basic techniques for handling must reflect understanding of the hazards related to different processes. When showing knowledge of the suitability of selected photographic technology for making photographs for identified purposes, the description should be clear but may be limited in breadth or detail to the basic features of the identified technology. For example a review of the suitability of flash for photographing people on location may be limited to a description of the ability of flash to freeze movement and to be an available camera accessory.

When presenting ideas for their own photographs at pass level, learners may demonstrate limited use of the techniques associated with pre-production. For example a single idea which may have been reached with limited reference to current and past practice, or an idea that should demand unrealistic production techniques to realise creative intention. At pass level photographic outcomes realise planned intentions through correct use of basic production techniques, for example accurate exposure during image capture, simple image processing and output. At pass level learner description of their own use of photographic materials, techniques and technology may be limited to a literal account of their activities.

To achieve a merit grade, learners must analyse the suitability of selected photographic media for identified purposes with awareness of associated techniques. The level of enquiry and exploration should be shown by a range of relevant annotated material together with some criticality in the explanations. Review of own practical experiences form a more significant part of the workbook content.

Learners should categorise different features of the media with associated handling techniques and state how each contributes and validates its use for identified purposes. Learners should use correct technical language when describing the suitability of selected photographic technology for making photographs for identified purposes. Learner judgments should be valid and evidenced by detailed analysis in the workbook. For example the analysis of the suitability of flash for photographing people on location may be extended beyond the ability of flash to freeze movement to ideas about fill-in flash techniques and include factors related to location.

A well-developed understanding of pre-production techniques should be demonstrated through a presentation in which several ideas for own photographs have been explored with clear reference to client requirements. Aesthetic decisions are likely to have been reached through a process of refinement and reference to current and past practice which clearly relates to the ideas presented. In applying production techniques skill fully to realise their planned intentions, learners at merit level should produce effective experiments and work with some independence when creating photographs.

At merit level learner discussion of their own use of photographic materials, techniques and technology should include a well-considered reflection about both process and product. Commentary may be largely descriptive and the discussion is likely to be detailed with reference to supporting examples in the workbook.

To achieve a distinction grade, workbooks should show evidence an evaluative approach to enquiry and exploration of photographic media. There may be a balance of workbook content in which the review of own practical experiences may outweigh annotations and reviews of found published information. Explanations about different media should be informed and detailed and conclusions developed with clear reference to evidence. Comprehensive reference should be made to associated handling techniques with conclusions formed following perceptive review of information. Detailed descriptions about the suitability of selected photographic technology should be supported by detailed analysis of own practical experiences and researched information in the workbook. For example the analysis of the suitability of flash for photographing people on location may be extended to include ideas about the use of flash on and off camera, thoughts about flash blur techniques and include a measured analysis of how factors related to location may be managed.

At distinction level presentation of ideas for own photographs will show responsiveness in the application of understanding of pre-production techniques. Responsiveness is likely to be demonstrated through a perceptive process of refinement of ideas which lead to innovative solutions. Aesthetic decisions, made following consideration of all pre-production factors, will result in creative intentions which demonstrate some sophistication. In applying production techniques skill fully to realise sophisticated planned intentions, learners at distinction level will work independently to achieve results of high technical and aesthetic quality. Learner evaluations of their own use of photographic materials, techniques and technology will use correct technical language and be well-considered. Learners should clearly articulate their understanding of the process of production with some sophistication in the arguments presented.

## Programme of suggested assignments

The table below shows a programme of suggested assignments that cover the pass, merit and distinction criteria in the assessment and grading grid. This is for guidance and it is recommended that centres either write their own assignments or adapt any Edexcel assignments to meet local needs and resources.

Criteria covered	Assignment title	Scenario	Assessment method
P2, M2, D2 P4, M4, D4	<b>Assignment 1:</b> Create Book/CD Cover/Website Home Page	Working as photographers learners individually plan and produce a photograph in response to a client brief.	Oral presentation. Written evidence including annotations of research material in sketchbook.
P1, M1, D1 P3, M3, D3	<b>Assignment 2:</b> Technical Workbook	Learners work in small groups and individually to prepare an individual media, techniques and technology research folder.	Oral presentation. Written evidence including annotations of research material in individual folder.
P1, M1, D1 P2, M2, D2 P3, M3, D3 P4, M4, D4	<b>Assignment 3:</b> Create Product Advert	Working as photographers learners individually plan and produce photographs to advertise an identified product.	Oral presentation. Written evidence including annotations of research material in sketchbook.

## Links to National Occupational Standards, other BTEC units, other BTEC qualifications and other relevant units and qualifications

This unit forms part of the BTEC Art and Design sector suite. This unit has particular links with the following unit titles in the BTEC Art and Design suite:

Level 1	Level 2	Level 3
Introduction to Photography	Working with Photography Briefs	Photography, Media, Techniques and Technology
Working to a Photographic Brief	Produce an Art and Design Outcome	Darkroom Practice
		Location Photography

## National Occupational Standards

This unit also provides development opportunities for some of the underpinning skills, knowledge and understanding of the following National Occupational Standards:

### Skillset Sector Skills Council

Photo Imaging

- P1 Store and Retrieve Photographic Equipment and Material
- C6 Contribute to The Development of The Photo Imaging Brief
- D1 Create Original Artwork for Digital Images
- D2 Carry Out Specified Image Scanning
- D3 Plan and Produce Scanned Images
- D4 Carry Out Specified Image Editing.

### Essential resources

Learners require access to an appropriate range of studio facilities, processing equipment and specialist chemicals. For some processes, specialist equipment may not be available and a degree of improvisation can often provide a suitable alternative solution. Access to an interior lighting studio facility is a requirement for interior/studio photography.

It is essential that learners have access to computers with appropriately updated design software. These must be suitable for in-depth experimental image manipulation that will be required to support learners' digital ideas, technical development and expertise.

Access to design studios for photographic analysis of process and progress and for group teaching and evaluation sessions, including ideas origination and development, is essential. Facilities that include both specialist and general learning support materials, including books, journals and periodicals are vital for research purposes. Access to the internet is required for imagery investigation generally and for historical, cultural and contemporary contextual research.

### Employer engagement and vocational contexts

Centres should develop links with practising photographers, to deliver assignments to learners or to provide work experience. It is important for learners to understand the differences between managing oneself as a freelancer and employment opportunities such as retail, photographic laboratories and picture libraries.

Links with employers are essential to the delivery of the programme for work experience and future employment.

Vocational learning support resources:

- Learning and Skills Network – [www.vocationallearning.org.uk](http://www.vocationallearning.org.uk)

Business and finance advice:

- local and regional Business Link – [www.businesslink.gov.uk](http://www.businesslink.gov.uk)

Assignments should be vocationally relevant; centres should consider the delivery of 'live projects', for example, to support the vocational content of the unit and programme.

Skillset, the Sector Skills Council for Creative Media ([www.skillset.org](http://www.skillset.org)), provides details on its photo pages ([www.skillset.org/photo](http://www.skillset.org/photo)) careers and the industry and has a regularly updated news and events page.

## Indicative reading for learners

### Textbooks

Anchell S – *The Darkroom Cookbook* (Focal Press, 2008) ISBN 978-0240810553

Allen E and Triantaphillidou P – *The Manual of Photography and Digital Imaging* (Focal Press, 2009) ISBN 978-0240520377

Child J and Garner M – *Photographic Lighting Essential Skills (Photography Essential Skills)* (Focal Press, 2008) ISBN 978-0240520957

Davies A – *Focal Digital Imaging A to Z* (Focal Press, 2005) ISBN 978-0240519807

Evening M and Schewe J – *Adobe CS4 for Photographers: The Ultimate Workshop* (Focal Press, 2009) ISBN 978-0240811185

Farace J – *Getting Started with Digital Imaging: Tips, tools and techniques for photographers* (Focal Press, 2007) ISBN 978-0240808383

Faris-Belt A – *The Elements of Photography: Understanding and Creating Sophisticated Images* (Focal Press, 2008) ISBN 978-0240809427

Freeman M – *The Photographer's Eye: Composition and Design for Better Digital Photos* (Focal Press, 2007) ISBN 978-0240809342

Freeman M – *Michael Freeman's Perfect Exposure: The Professional's Guide to Capturing the Perfect Digital Photograph* (Focal Press, 2009) ISBN 978-0240811710

Hirsch R – *Exploring Colour Photography. A Complete Guide* (Laurence King, 2004) ISBN 978-0697292308

Hirsch R – *Light and Lens: Photography in the Digital Age* (Focal Press, 2007) ISBN 978-0240808550

Hirsch R – *Photographic Possibilities: The Expressive Use of Equipment, Ideas, Materials and Processes* (Focal Press, 2008) ISBN 978-0240810133

Ingledeew J – *Photography (Portfolio Series)* (Laurence King, 2005) ISBN 978-1856694322

Kobre – *Photojournalism: The Professionals' Approach* (Focal Press, 2008) ISBN 978-0750685931

Langford M, Fox A and Sawdon Smith R – *Langford's Basic Photography: The Guide for Serious Photographers, 8th Edition* (Focal Press, 2007) ISBN 978-0240520353

Lea D – *Creative Photoshop: Digital Illustration and Art Techniques* (Focal Press, 2007) ISBN 978-0240520469

Peres M – *The Focal Encyclopedia of Photography, 4th edition* (Focal Press, 2007) ISBN 978-0240807409

Russotti P – *Digital Photographic Workflow* (Focal Press, 2009) ISBN 978-0240810959

Salvaggio N – *Basic Photographic Materials and Processes, 3rd Edition* (Focal Press, 2009) ISBN 978-0240809847

Staver B and Farace J – *Better Available Light Digital Photography: How to Make the Most of Your Night and Low-Light Shots* (Focal Press, 2008) ISBN 978-0240809991

Stoppee B and Stoppee J – *Stoppees' Guide to Photography and Light* (Focal Press, 2008) ISBN 978-0240810638

Tarrant J – *Understanding Digital Cameras: Getting the Best Image from Capture to Output* (Focal Press, 2008) ISBN 978-0240520247

Zakia R – *Perception and Imaging: Photography – A Way of Seeing* (Focal Press, 2007) ISBN 978-0240809304

## **Journals**

*Aperture*

*Artforum International*

*Art Monthly*

*British Journal of Photography* – Inclusive Media

*Creative Camera*

*Camera International*

*Creative Photography*

*Creative Review*

*Dazed and Confused*

*Digital Photo* – EMAP

*Emulsion Lifts and Creative Techniques*

*Insight*

*Portfolio*

*Practical Photography* – EMAP

## Websites

<a href="http://www.bjphoto.co.uk">www.bjphoto.co.uk</a>	British Journal of Photography
<a href="http://www.eastmanhouse.org">www.eastmanhouse.org</a>	George Eastman House: International Museum of Photography and Film
<a href="http://en.wikipedia.org/wiki/Henri_Cartier-Bresson">en.wikipedia.org/wiki/Henri_Cartier-Bresson</a>	Information on Henri Cartier-Bresson
<a href="http://www.hse.gov.uk/coshh">www.hse.gov.uk/coshh</a>	Control of Substances Hazardous to Health
<a href="http://www.hse.gov.uk">www.hse.gov.uk</a>	Health and Safety Executive
<a href="http://www.karenbrett.com">www.karenbrett.com</a>	Artist Karen Brett
<a href="http://www.lauriecampbell.com">www.lauriecampbell.com</a>	One of Britain's top wildlife and landscape photographers
<a href="http://www.masters-of-photography.com">www.masters-of-photography.com</a>	Photographers such as Man Ray, Ansel Adams, Diane Arbus, Walker Evans, and Alfred Steiglitz. Including Victorian portraits, New York street photography, and images of the Ethiopian famine
<a href="http://www.nmpft.org.uk">www.nmpft.org.uk</a>	National Museum of Photography, Film and TV
<a href="http://www.npg.org.uk">www.npg.org.uk</a>	National Portrait Gallery
<a href="http://www.npg.siedu/exh/cb/index.htm">www.npg.siedu/exh/cb/index.htm</a>	Portraits by Henri Cartier-Bresson. Including portraits of Coco Chanel, Truman Capote and William Faulkner. Accompanied by a narrative explaining Cartier-Bresson's place in the history of photography
<a href="http://www.nypl.org/research/chss/spe/art/photo/photo.html">www.nypl.org/research/chss/spe/art/photo/photo.html</a>	200,000 original photographic prints representing an international range of photographers, and comprising a survey of processes. Online photography exhibitions are available to give a flavour of the collection
<a href="http://www.opsi.gov.uk">www.opsi.gov.uk</a>	Office of Public Sector Information
<a href="http://www.pbs.org/ktca/americanphotography">www.pbs.org/ktca/americanphotography</a>	American Photography: A Century of Images – Centres on the power and critical appreciation of photography and uses specific photographs to make points about cultural identity, social change, and war. An 'Image Lab' provides an interactive educational presentation which is available on video, with transcriptions for teachers. Author: Public Broadcasting Service
<a href="http://www.photonet.org.uk">www.photonet.org.uk</a>	Photographers' Gallery
<a href="http://www.sebastiaosalgado.com">www.sebastiaosalgado.com</a>	br Sebastiao Salgado
<a href="http://www.skillsset.org">www.skillsset.org</a>	The Sector Skills Council for Creative media
<a href="http://www.womenphotographers.com">www.womenphotographers.com</a>	Women's photographic portfolios

## Delivery of personal, learning and thinking skills

The table below identifies the opportunities for personal, learning and thinking skills (PLTS) that have been included within the pass assessment criteria of this unit.

Skill	When learners are ...
<b>Independent enquirers</b>	researching and exploring media, techniques and technology engaged in pre-production and production activities for own photographs
<b>Creative thinkers</b>	engaged in pre-production and production activities for own photographs considering the suitability of selected photographic media and techniques considering the suitability of selected photographic technology
<b>Reflective learners</b>	engaged in pre-production activities such as reviewing and refining ideas for own photographs applying production techniques to realise planned intentions when creating photographs considering the suitability of selected photographic media and techniques
<b>Team workers</b>	collaborating in small groups to discuss researched media, techniques and technology material for their workbook
<b>Self-managers</b>	managing time and resources for pre-production and production of own photographs
<b>Effective participators</b>	working in small groups to discuss researched media, techniques and technology material.

Although PLTS are identified within this unit as an inherent part of the assessment criteria, there are further opportunities to develop a range of PLTS through various approaches to teaching and learning.

Skill	When learners are ...
<b>Reflective learners</b>	evaluating their work through structured critical review and using outcomes of review to inform future progress
<b>Self-managers</b>	seeking new challenges and demonstrating flexibility and responsiveness
<b>Effective participators</b>	describing own use of photographic work if involved in group critical review which offers opportunity for peer assessment.

## ● Functional Skills – Level 2

Skill	When learners are ...
<b>ICT – Use ICT systems</b>	
Select, interact with and use ICT systems independently for a complex task to meet a variety of needs	scanning and developing ideas digitally using software to develop image creation researching contextual and other information for the development of own visual recording work
Use ICT to effectively plan work and evaluate the effectiveness of the ICT system they have used	planning project briefs and where and how ICT might be used when appropriate evaluating outcomes
Manage information storage to enable efficient retrieval	researching from internet sources downloading information creating folders for storage and retrieval
Follow and understand the need for safety and security practices	researching from internet sources downloading information creating folders for storage and retrieval
<b>ICT – Find and select information</b>	
Select and use a variety of sources of information independently for a complex task	researching media, techniques and technology researching examples of published photographs which demonstrate use of techniques developing own response informed by research
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	researching information for different briefs and activities evaluating results
<b>ICT – Develop, present and communicate information</b>	
Enter, develop and format information independently to suit its meaning and purpose including: <ul style="list-style-type: none"> <li>• text and tables</li> <li>• images</li> <li>• numbers</li> <li>• records</li> </ul>	experimenting with digital processes and techniques designing digitally using scanners inputting and formatting information from sources producing photographs if working digitally
Bring together information to suit content and purpose	developing design ideas digitally importing visual and textual information relevant to brief/activity
Present information in ways that are fit for purpose and audience	using digital means to plan, create and give presentations to different audiences
Evaluate the selection and use of ICT tools and facilities used to present information	outlining the suitability of media, techniques and technology assessing their progress and commenting on the appropriateness of their selection of ICT tools and facilities – eg use of software

Skill	When learners are ...
Select and use ICT to communicate and exchange information safely, responsibly and effectively including storage of messages and contact lists	using email to submit written work downloading information from internet sources storing of information and creating folders for access
<b>Mathematics</b>	
Understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations	working with photographic media, techniques and processes in scaling, timing, measuring using perspective and other methods of projection
Identify the situation or problem and the mathematical methods needed to tackle it	using measuring and orthographic projection for accuracy, and scaling using software to observe and modify designs taken from visual recordings checking and modifying different viewpoints
<b>English</b>	
Speaking and listening – make a range of contributions to discussions and make effective presentations in a wide range of contexts	discussing the project brief contributing to group discussions and the sharing of ideas comparing others' use of photography media, techniques and processes presenting ideas for own photographs describing own use of media, techniques and technology
Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions	researching, reading, selecting text and images; annotating, commenting and comparing; using text and image to relate to own work and evidencing understanding through discussion, evaluations and presentations
Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively	evaluating results of use of photographic media, techniques and processes and analysing skills and qualities achieved analysing and evaluating selected artists' images for the purpose of developing own work, using personal judgements; evaluating final ideas.