L2 Unit 3: Digital imaging – plan and produce computer graphics (2010)

Learning outcomes

By completing this unit candidates will develop a thorough knowledge of computer graphics.

Candidates will be able to:

- describe and evaluate a range of images

- plan the production of graphic images for a client

- source and store components for graphic products

- record the sources of computer graphics and consider relevant legislation

- use appropriate software tools to create, edit and combine graphic images

- present work to a client for a specific purpose, using a suitable format for display.

It is anticipated that a candidate will require 40 guided learning hours to complete this unit.

Assessment objectives	Knowledge, understanding and skills
1 Describe and evaluate a range of images	Research images collected from existing sources, eg: • images printed on paper (newspapers/magazines, advertisements, posters) • images printed on other surfaces (packaging, labels, signs) • images viewed on screen (digital artwork including backgrounds and buttons) • maps, diagrams, plans Describe: • audience and purpose of image • suitability for purpose • message conveyed (if any) • medium used for image • size (eg physical or file size) • effectiveness of product
2 Plan the production of graphic images for a client	Describe: • target audience • purpose/message • where the graphic will be used • size, resolution and file format • ideas from initial research • deadlines continued on next page

Assessment objectives	Knowledge, understanding and skills
	Plan computer graphics eg: • production of roughs • lines (style, thickness) • text (font, size, colour) • basic shapes • colour • component parts – resolution, size, colour mode, etc • paper size and orientation
3 Source and store components for graphic products	Sources: • existing electronic images eg clipart library (Internet or CD-ROM), • other graphics/photographs from the Internet • Digital camera: selecting image quality, save and transfer images onto computer, output to specified size • Scanner: select appropriate scanning software, adjust resolution, manage file size, save and transfer images onto suitable storage device Store components for graphic products
4 Record the sources of computer graphics and consider relevant legislation	Source table for graphics used eg: • location/source of each graphic • date of collection • file name • file size Relevant legislation: • Copyright Law (should permission be sought?)
5 Use appropriate software tools to create, edit and combine graphic images	Bitmap tools, eg: • use of selection tools • drawing/painting techniques • freehand tools • use of layers • cut, copy, crop, paste • rotate and flip • brush types and shape • colour and colour adjustment • fill and fill styles • filters • opacity/transparency • move and position layers/elements • adjust image size Vector tools, eg: • use of selection tools continued on next page

Assessment objectives	Knowledge, understanding and skills

	• geometric and freehand shapes:
	   o circles/ellipses
	   o squares/rectangles
	   o polygons and pre-defined shapes
	• straight and curved lines
	• arrows/line styles
	• use of layers
	• cut, copy, crop, paste
	• rotate and flip
	• group/ungroup elements
	• move and position elements
	• alignment and order
	• colour, colour adjustment
	• stroke thickness
	• fill styles and gradients
	• shadows
	• insert and manipulate text
	• opacity/transparency
	• adjust image size
	General
	• clear development of graphics and explanation of processes undertaken
	• save in appropriate file formats

6 Present work to a client for a specific purpose, using a suitable format for display	Presentation of work in a suitable format, eg: • portfolio • slide presentation • report folder • other Consider eg: • size • resolution • colour mode • medium • file types

Assessment

This unit is centre assessed and externally moderated.

In order to achieve this unit, candidates must produce a portfolio of evidence showing that they have met all of the assessment objectives.

Portfolios of work must be produced independently. They will need to be made available, together with witness statements and any other supporting documentation, to the OCR Visiting Moderator when required.

Centres must confirm to OCR that the evidence produced by candidates is authentic. An OCR Centre Authentication Form is provided in the Centre Handbook and includes a declaration for assessors to sign. It is a requirement of the QCA Common Criteria for all Qualifications that proof of authentication is received.

Guidance on assessment and evidence requirements

Assessment Objective 1 requires candidates to describe and evaluate a range of existing images from different sources. Some might be found on the internet; others could be scanned or included by using a digital camera. Alternatively, candidates might simply include originals, cutting them out and including them in their portfolio of work.

In evaluating these graphics, candidates should focus on the audience and purpose. They can comment on the medium used and whether any particular message is conveyed (or supposed to be conveyed). Consideration of size should include the actual physical dimensions and the file size where this is available. Beyond Pass level, a judgement should be made as to whether the graphics are in fact suitable and effective – do they do the job they should?

Assessment Objective 2 requires candidates to plan a range of graphic images for a specified client. The number of graphics that is required depends on their complexity – candidates may need to produce two or three graphics in order to meet assessment objective 5 later on which requires candidates to use a **wide range** of vector and bitmap tools. They must specify the purpose and audience of the graphics to be produced. Rough sketches will be required, detailing some key areas eg: lines, text, shapes, colour, component parts and paper size and orientation.

Assessment Objective 3 requires candidates to source and store components for use in their final graphic products. Candidates might use part of an existing graphic or the whole thing. In using a scanner, some candidates might draw things themselves and then scan them in order to make use of them in their final graphics. As candidates collect graphics, they should complete Assessment Objective 4 **at the same time**. Candidates must source their graphics from more than one of the listed categories; for higher grades candidates must source their graphics from **all four** categories listed.

Assessment Objective 4 requires candidates to keep a record of the source of graphics collected. These details will be stored in a source table, listing the location/source of each graphic, when it was collected, filename, file size and whether any copyright applies to it and its use. **There is no need for candidates to seek permission to use graphics.**

Assessment Objective 5 requires candidates to use a range of vector and bitmap tools to create, edit and combine graphics. As stated in Assessment Objective 2, the number of graphics they create will depend on their complexity. The list of tools provided in the knowledge, understanding and skills is by no means exhaustive. It is, however, intended that candidates use a range of tools from the list or alternatives. This is a graphics unit and simply using basic tools or basic editing tools (such as the fill tool and copy/paste) to adapt an existing graphic will **not** meet the requirements of this assessment objective.

The range of tools used will be demonstrated through evidence (in the form of screenshots) showing the development of candidate's work. Candidates do not need to provide a screenshot of every step – they should aim to show the use of as wide a range of tools as possible, both bitmap and vector tools.

Assessment Objective 6 requires candidates to present their work for a client, using a suitable format chosen by them. This could be a digital portfolio, slide presentation or folder of work. Any suitable method can be used. Consideration of size (file size and physical size) should be considered. Beyond Pass level, candidates will need to think about file types, resolution and colour mode. At the highest level, candidates will need to justify the use of the medium they have chosen.

Mapping to national occupational standards

The mapping in the table below provides an indication of where evidence might be available for assessment against some of the knowledge and understanding contained in the national occupational standards (NOS). It does not claim to guarantee that evidence will meet the NOS.

Occupational standards	Unit number	Title
IT User (e-skills UK)	ART2	Artwork and imaging software Level 2
IT Users 2009 (e-skills UK)	DIS:B	Design and imaging software
IT User (e-skills UK)	MSU1	Make selective use of IT Level 2
Digital Print Production	O56NDPP7 10A	Create digital colour artwork for print
Digital Print Production	O56NDPP1 23A	Capture images from specific sources
Digital Print Production	O56NDPP1 27A	Plan and produce edited images
IT Users (e-skills UK)	PS2	Presentation software Level 2
IT Users (e-skills UK)	WP2	Word processing software Level 2
IT Users 2009 (e-skills UK)	WP:B	Word processing software
IT Users 2009 (e-skills UK)	PS:B	Presentation software
IT Users 2009 (e-skills UK)	ISF:FS:B	IT software fundamentals
IT Users 2009 (e-skills UK)	IPU: B	Improving productivity using IT
IT Users 2009 (e-skills UK)	ICF: B	FS IT communication fundamentals

Signposting to functional skills

✓   The unit contains opportunities for developing Functional Skills.

Functional Skills Standards					
English		**Mathematics**		**ICT**	
Speaking and Listening		Representing		Use ICT systems	✓
Reading	✓	Analysing		Find and select information	✓
Writing	✓	Interpreting		Develop, present and communicate information	✓

Resources

This section provides suggestions of suitable resources. The list is neither prescriptive nor exhaustive, and candidates should be encouraged to gather information from a variety of sources.

Some suggested resources are intended for Tutor use. The resources in this section were current at the time of production.

Books

Busselle, M	*Creative Digital Photography* David & Charles ISBN: 9780715322413
Hedgecoe, J	*The New Manual of Photography* DK Publishing Inc ISBN: 9781405334761
Rowse, A	*Digital SLR Handbook* Guild of Master Craftsmen ISBN: 9781861083586
Kim, J	*40 digital photography techniques for beginners* Youngjin.com ISBN:9788931433692
Cushing, Manson, Kelsall & Patel	*ICT for OCR National Level 2 Units 5 and 3 Online Teacher's Resource* Payne-Gallway ISBN: 9781905292202
Ruksana Patel, Yvonne Oakes	*iMedia. OCR Level 2 Certificate/Diploma* Payne-Gallway ISBN 9781904467991
Cushing, Manson, Kelsall & Patel	*OCR Level 2 Nationals in ICT: Units 3 & 5* Payne-Gallway ISBN: 9781905292158
Bowman & Jones	*OCR National Level 2 in ICT Student Book with Dynamic Learning CD-ROM* Hodder Arnold. ISBN: 9780340942017,
Thomas Telford Online	*OCR Nationals in ICT* Thomas Telford Online
@tain online curriculum resources	*OCR Nationals in ICT* *@tain at Brooke Weston City Technology College*

Websites

Ernst Haas (Photographer).   URL: http://www.ernsthaas.com

Pixiport.   URL: http://www.pixiport.com

Photolinks.   URL: http://www.photolinks.ch

Women in photograph.   URL: http://www.womeninphotography.org

Journals/magazines

Incisive Media.   British Journal of Photography

IDG Communications.   Digit

B&W Magazine.   B&W Photography

Grading

Assessment Objective	Pass	Merit	Distinction
AO1 Describe and evaluate a range of images	Candidates will collect and display at least four different graphics. These should be from at least two different sources. They will describe the purpose and will comment on the suitability of each graphic.	Candidates will collect and display at least four different graphics. These should be from at least two different sources. They will describe the purpose and audience and will discuss the suitability of each graphic. They will indicate the dimensions and file size of some of the graphics discussed.	Candidates will collect and display at least four different graphics. These should be from at least two different sources. They will describe the purpose and audience and will discuss the suitability of each graphic. They will describe, with reasons, the extent to which each graphic meets its purpose. They will indicate the dimensions and file size of most of the graphics discussed.
AO2 Plan the production of graphic images for a client	Candidates will describe the purpose and audience of graphics that are to be created. They will plan these graphics, producing rough sketches, identifying some of the key areas.	Candidates will describe the purpose and audience of graphics that are to be created. They may refer to ideas gained from the research undertaken in Assessment Objective 1. They will plan these graphics, producing rough sketches, identifying most of the key areas.	Candidates will describe the purpose and audience of graphics that are to be created. They will discuss where the graphics will be used and will identify size, resolution and file format for each. They may refer to ideas gained from the research undertaken in Assessment Objective 1. They will set deadlines for the work. They will plan these graphics, producing rough sketches, identifying all key areas.
AO3 Source and store components for graphic products	Candidates will source and store graphics from two of the listed categories. Some may not be appropriate.	Candidates will source and store graphics from three of the listed categories. Most graphics will be appropriate.	Candidates will source and store graphics from all four of the listed categories. All graphics will be appropriate.

Assessment Objective	Pass	Merit	Distinction
AO4 Record the sources of computer graphics and consider relevant legislation	Candidates will keep a record of computer graphics sourced and stored using a table.	Candidates will keep a detailed record of computer graphics sourced and stored using a table. This should allow others to locate some of them if required. Candidates should have awareness of Copyright Law.	Candidates will keep an accurate record of computer graphics sourced and stored using a table. This should allow others to locate most of them if required. Candidates should have an awareness of Copyright Law.
AO5 Use appropriate software tools to create, edit and combine graphic images	Candidates will create graphics using a limited range of vector and bitmap tools. Some development work will be demonstrated.	Candidates will create graphics that are fit for purpose using a range of vector and bitmap tools. Development work will be demonstrated and annotated to explain the processes undertaken. Most graphics will be saved in appropriate file formats.	Candidates will create graphics that are fit for purpose and audience using a wide range of vector and bitmap tools. Development work will be demonstrated and annotated to explain and justify the processes undertaken. All graphics will be saved in appropriate file formats
AO6 Present work to a client for a specific purpose, using a suitable format for display	Candidates will present work in a suitable format, with some consideration of size.	Candidates will present work in a suitable format, with consideration of size, resolution and file types.	Candidates will present work in a suitable format, with consideration of size, resolution, colour mode and file types. They will justify the use of the medium to present the graphics.