

Unit 54: Digital Graphics for Print

Unit code:	L/600/6624
QCF Level 3:	BTEC National
Credit value:	10
Guided learning hours:	60

● Aim and purpose

The aim of this unit is to give learners the knowledge and skills needed to produce, process, control and manipulate digital graphics used for a range of print, interactive and moving image media.

● Unit introduction

The inclusion of appropriate graphics in a print, moving image or interactive media product is often crucial to its ability to attract the right audience and to communicate effectively the desired message. Print-based products such as newspapers, magazines, posters, flyers, DVD and CD covers all include graphics and illustrations that are there to grab the reader's attention and communicate a specific message. Interactive products such as websites, computer games and CD ROMs will all incorporate some form of digital graphics, and many films, videos and television programmes will include sequences that include some form of digital graphics, particularly in the opening titles and closing credits.

Producing and manipulating effective graphics for print and digital media products is a skilled job that requires not only creative graphic design skills but also experience of using the image design and manipulation software that is at the heart of many media production processes today.

The increased use of computer hardware and image design software means that a graphic designer working in the industry today needs to be familiar with a number of different graphic files and formats, and have the skills and knowledge to be able to process, control and combine these files into effective and aesthetically pleasing media texts.

Through completing this unit learners will gain a practical understanding of the principles and conventions underlying effective digital graphic design, and will be able to apply the skills and techniques learnt in a range of different contexts.

● Learning outcomes

On completion of this unit a learner should:

- 1 Understand graphic file formats and applications
- 2 Be able to use appropriate image design and manipulation software
- 3 Be able to produce digital graphics in response to a brief
- 4 Be able to reflect on own digital graphics work.

Unit content

1 Understand graphic file formats and applications

File formats: range of common formats, eg raster, vector, metafiles; file extensions

Applications: vector-based applications; raster-based applications; use in different media forms (print, moving image, interactive)

2 Be able to use appropriate image design and manipulation software

Workspace: work area; toolbox; status bar; file information; tool option bar; palette well; window control; floating palettes

Tools and features: palettes (colour, layers, objects, brushes, history, actions, size, resolution); tools (marquee, lasso, magic wand, magnetic lasso, selecting, cropping, clone tool); layers (transforming layers, copying and saving layers, arranging layers, opacity and blending modes, layer effects); manipulation (feathering edges, filters, brightness and contrast, hue and saturation, masks, paths, textures, effects); save; undo

3 Be able to produce digital graphics in response to a brief

Develop ideas: establish concept; select format; length and nature of content; consideration of audience usage; layout design; input and manipulation of images; selection of style and tone; consideration of limitations and advantages of format; deadlines; schedule

Production of graphics: selection of file formats; conversion to appropriate formats; embedding and encoding of required elements; testing and troubleshooting; uploading; exporting and outputting to file formats

4 Be able to reflect on own digital graphics work

Effectiveness: extent to which brief has been realised; use of appropriate methods and techniques; skill level evidenced; level of professionalism achieved; what final version communicates; processes undertaken; problem solving; skill development; areas for improvement

Sources of information: self-evaluation; documentation, eg notes, sketches, production logs; comments from others, eg audience, peers, tutors, client

Production process: pre-production, eg planning, preparation; production, eg time management, project management, monitoring work in progress, technical competencies, creative ability, own work, teamwork

Finished product: compared with original intentions; appropriateness to audience; technical qualities; aesthetic qualities; content; style

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:
P1 describe graphic file formats and their applications with some appropriate use of subject terminology [IE]	M1 explain graphic file formats and their applications with reference to detailed illustrative examples and with generally correct use of subject terminology	D1 comprehensively explain graphic file formats and their applications, with reference to elucidated examples and consistently using subject terminology correctly
P2 use appropriate image design and manipulation software working within appropriate conventions and with some assistance [CT; SM]	M2 use appropriate image design and manipulation software to a good technical standard, showing some imagination and with only occasional assistance	D2 use appropriate image design and manipulation software to near-professional standards, showing creativity and flair and working independently to professional expectations
P3 design and produce digital graphics in response to a brief working within appropriate conventions and with some assistance [CT; SM]	M3 design and produce digital graphics in response to a brief to a good technical standard, showing some imagination and with only occasional assistance	D3 design and produce digital graphics in response to a brief to near-professional standards, showing creativity and flair and working independently to professional expectations
P4 comment on own work with some appropriate use of subject terminology. [RL]	M4 explain own work with reference to detailed illustrative examples and with generally correct use of subject terminology.	D4 critically evaluate own work in the context of professional practice consistently using subject terminology correctly.

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.

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

Essential guidance for tutors

Delivery

The unit is intended to develop an understanding of the range of practical applications for producing, editing and manipulating digital graphics. Learners should be given the opportunity to develop knowledge, skills and techniques associated with the relevant software programmes. Lectures, demonstrations, workshops and discussions should be incorporated into the teaching programme as should opportunities for learners to practise and experiment with the relevant hardware and software applications. This is primarily a software skills development unit and is best taught through demonstration, discussion and practical activities, with learners having time to further practise and develop their skills through open-access sessions and workshops.

Developing an understanding of the use of software should be undertaken in short, carefully structured stages, each stage being reinforced with small practical projects which, when completed, allow progress to other stages. Learners should clearly identify the strengths and weaknesses of their work in order for them to move on in their development. They should also demonstrate their developing use of appropriate terminology. They will then have the opportunity to reflect and comment on the effectiveness of their work and will be in a better position to further their skills development.

This unit links well with other units within the specification and there is potential for learners to use this unit to provide digital graphics for media texts that they are developing and producing in other units. If this is the case then a live brief for a client or designated purpose would be ideal for incorporation into this unit. This would give learners the opportunity to work in a vocational context, presenting their analysis, findings and proposals for their final product to a client as well as getting feedback throughout the process and on the final product, which will support their ability to comment on the effectiveness of their own work.

If learners undertake practical work as part of a group, it is important that individual learners clearly record and document their own contributions to the group project, and identify the roles that they undertook at each of the production stages.

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 of planning the teaching and assessment of this unit.

Topics and suggested assignments and activities

Introduction to unit and unit assessment.

Group exercise – investigation and analysis of examples of digital graphics in media products.

Assignment 1 – Investigating Graphic File Formats and Applications

Learners are given a brief from a design magazine to write an article on the main graphic file formats and applications that are used in the production of media products.

Learners will:

- receive assignment overview
- research and investigate the main graphic file formats and applications used in the production of media products
- write the article
- receive assessment feedback and have further opportunities to address grading criteria.

Topics and suggested assignments and activities

Whole-class introduction to image design and manipulation software.

Assignment 2 – Skills Development

Learners are given a brief from a prospective employer to produce a portfolio of work that showcases the development of skills in using image design and manipulation software.

Learners will:

- receive assignment overview
- develop software skills through the design and production of a range of digital graphics, experimenting with a range of different tools and features
- collate final portfolio
- receive assessment feedback and have further opportunities to address grading criteria.

Individual review of own work and assessment of skill development.

Assignment 3 – Design and Produce Digital Graphics

Learners are given a series of briefs from a media production company to design and produce digital graphics for inclusion in a range of their products.

Learners will:

- receive assignment overview
- design and produce a series of digital graphics in a range of file formats
- collate final portfolio
- receive assessment feedback and have further opportunities to address grading criteria.

Whole-class session looking at a selection of the work produced.

Whole-class session looking at techniques and methods for evaluating work and presenting final report.

Assignment 4 – Review

Learners are given a brief from the media production company to write a report that reviews and evaluates the work undertaken for them, considering the production processes, the finished products and their effectiveness.

Learners will:

- receive assignment overview
- gather relevant material and feedback and evaluate the work undertaken
- write the report
- receive assessment feedback and have further opportunities to address grading criteria.

Assessment

Evidence for assessment

As is the case for many of the other practical units, learners should be developing and building a portfolio of their work throughout the duration of the unit. This portfolio should contain evidence of all the required understanding and skills detailed in the grading criteria.

Evidence for the achievement of learning outcomes 2 and 3 might include examples of the learner's completed work together with examples of work in progress and the various planning, preparation and developmental stages. Screenshots and printouts can provide explicit evidence of learner achievement and can be supported by tutor observation and assessment records. If assessments are based on conversations recorded in writing (as witness or observation reports) care must be taken to ensure that at least 50 per cent of such assessments are subject to internal verification.

Evidence for the achievement of learning outcomes 1 and 4 might be submitted as a report, essay or presentation, or in some other appropriate form such as a suitable audio, moving image or interactive medium. Presentations must be recorded for the purposes of internal and external verification.

If learners have worked in groups on a particular brief or project, then individual learners must clearly document their own contribution to the group project and identify the different roles they undertook at each of the production stages.

For some elements of this unit, and for some learners, a formal viva voce assessment might be appropriate. When more than one learner in a cohort is assessed in this way, care must be taken to ensure that all learners are asked equivalent questions, and that all are given equal opportunities to expand or clarify their answers. Interviewers must also ensure that questions are not phrased in such a way as to provide or suggest an answer. Formal vivas should be recorded for the purposes of internal and external verification and at least 50 per cent of such assessments must be internally verified.

Application of grading criteria

When applying the grading criteria, tutors should follow the advice given below. Please note that any examples of evidence given here are indicative only. This advice is not exhaustive and the examples need not specifically be included in a learner's work in order for that learner to achieve the exemplified grade.

Pass

To achieve a pass grade, learners must achieve all the criteria at pass level. For each of the criteria learners must present evidence that addresses each italicised sub-heading of the content for the learning outcome.

P1: learners will describe accurately the main file formats and applications used in digital graphics work. Descriptions will be substantially complete. For example, the description should include both vector and raster file formats and applications. However, these descriptions will lack the detail and relation to examples required for the higher grades.

P2 and *P3*: learners will have used appropriate image design and manipulation software, employing relevant tools and features to produce and refine their designs. The digital graphics presented will not fully realise what was intended, but will show that they have been produced with some sense of purpose and the deliberate application of some relevant techniques and conventions. Learners will need to keep all associated supporting work, which should show the different stages of progress and development. In terms of the imaginative qualities of their work, learners will not move beyond the conventional, but the conventions applied will be appropriate to the form or genre within which they are working. Learners may require frequent assistance and support throughout the production process, though they will take note of and make use of this help when it is given. If they are in frequent need of such help but fail to make positive use of it, they should not be considered for a pass grade for this unit.

P4: learners will consider their own work in such a way that they move beyond merely describing it. They will make evaluative comments upon what they have done but these comments will be assertions that are not supported by evidence or exemplification.

P1 and P4: evidence will show a basic understanding of technical terminology but learners will generally be unsure about this vocabulary and will make fairly frequent mistakes when they do use it.

Merit

To achieve a merit grade, learners must achieve all the pass and all the merit grade criteria. For each of the criteria learners must present evidence that addresses each italicised sub-heading of the content for the learning outcome.

M1: learners will explain, rather than simply describe, the main file formats and applications within the context of the media industries and explain a range of methods and techniques used. That is to say, they will be able to talk about these things in such a way as to show how and why they are used. There will be relevant examples given to support what is said, but the learner will not elucidate these examples to show how they illustrate the point they support. For this grade, learners will show good knowledge and understanding of the subject and will communicate their ideas clearly.

M2 and M3: learners will demonstrate a sense of control and confidence in the use of appropriate software and some imagination in their design work. Appropriate technology and processes will have been selected and applied to a good technical standard. Though learners might still be working within recognisable conventions, there will be some thought behind the application of technical skills, and tools and features will be used with some inventiveness. There will be evidence that the work has been approached methodically and with adequate preparation through, for example, the inclusion of preparatory sketches, roughs, thumbnails and reworked drafts. Learners will need little assistance, though typically they will still need some support when dealing with more complex technology or trying to apply more sophisticated techniques. Like the pass grade learner, they will respond positively to any help given.

M4: learners will go beyond description and begin to explain clearly the effectiveness of their own work and explain decisions made, with reference to detailed illustrative examples from their own work and applying appropriate language and technical terminology accurately. However, the examples they give will not be further elucidated.

M1 and M4: learners will use technical vocabulary for the most part correctly, but may make mistakes or be unsure about usage at times.

Distinction

To achieve a distinction grade, learners must achieve all the pass, all the merit and all the distinction grade criteria. For each of the criteria learners must present evidence that addresses each italicised sub-heading of the content for the learning outcome.

D1: learners will provide a clear and comprehensive explanation of digital file formats and applications and will draw out of an example precisely what it is about it that exemplifies the point it illustrates. Fuller and more extensive explanation, better application of examples, and provision of argument to support points made, plus the higher quality expression, will discriminate between this grade and the merit. They will present evidence extremely effectively, whether in written form or through recorded presentations using audio-visual or interactive technology.

D2 and D3: learners will typically explore independently a range of effective and well thought-out original ideas and designs for production. Examples will show a high technical standard as well as creativity and flair resulting in preparatory material which closely reflects industry conventions for the presentation of such material. Codes and conventions will be used with occasionally surprising results. Practical digital graphic work will reflect the high standard of designs and preparation work completed for D2. Learners will show that there has been a clear progression from original designs to their completed work, which itself evidences creativity and flair and independent application of high quality technical skills to near-professional expectations. In all practical activity distinction grade learners will be capable of working autonomously and effectively. The term 'working independently' means that they are able to work on their own initiative, do not need constant support or supervision, give the work their full commitment, work positively and cooperatively with others, and meet deadlines. In other words, they have the kind of self-management skills that would be expected of them in a professional context. Note also that this criterion should not be taken to mean that learners do not seek advice or that they work without discussing things with their tutor, but rather that they are not dependent upon the support of others and that when they take advice they weigh it carefully for themselves.

D4: learners will produce a comprehensive, fluent and critically objective assessment of their own work that has well-considered justifications for the choices made with detailed reference to elucidated examples taken from that work. They will make critical comparisons of their own work with current or past practice in this sector of the industry.

D1 and D4: technical vocabulary will be secure and used correctly and confidently at all times.

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
P1, M1, D1	Assignment 1 – Investigating Graphic File Formats and Applications	A brief from a design magazine to write an article on the main graphic file formats and applications that are used in the production of media products.	<ul style="list-style-type: none"> • Research notes. • Summary of research. • Written article.
P2, M2, D2	Assignment 2 – Skills Development	A brief from a prospective employer to produce a portfolio of work that showcases the development of skills in using image design and manipulation software.	<ul style="list-style-type: none"> • Log of developmental stages undertaken. • Portfolio of experimental work undertaken. • Report on skills developed.
P3, M3, D3	Assignment 3 – Design and Produce Digital Graphics	A series of briefs from a media production company to design and produce digital graphics for inclusion in a range of their products.	<ul style="list-style-type: none"> • Log of production process. • Completed designs and digital graphics. • Feedback from client.
P4, M4, D4	Assignment 4 – Review	A brief from the media production company to review and evaluate the work undertaken for them.	<ul style="list-style-type: none"> • Review of own work. • Tutor observation and notes.

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

This unit forms part of the BTEC Creative Media Production suite. This unit has particular links with the following units in the BTEC Creative Media Production suite:

Level 2	Level 3
Print Production	Page Layout and Design
	Producing Print-Based Media

There are opportunities to relate the work done for this unit to Skillset National Occupational Standards in Production Design as follows:

- PD1 Obtain, clarify and agree the production brief
- PD2 Plan, agree and manage the budget to meet production requirements
- PD3 Determine design requirements which align with the production brief
- PD5 Communicate the visualisation of the production
- PD6 Monitor the realisation of the design requirements by getting results through others
- PD7 Design and produce presentations using information technology
- PD8 Manage the performance of the design team.

Essential resources

Learners will need access to appropriate hardware and software of industrial standard. Learners should also have access to relevant software manufacturers' manuals and other textbooks, and a range of examples that illustrate current digital graphics practice.

Employer engagement and vocational contexts

Centres should develop links with appropriate local media practitioners who are willing to come in and talk about the way in which they create or use digital graphics.

Skillset, the Sector Skills Council for the creative media sector, has a substantial section of its website dedicated to careers, including job descriptions – www.skillset.org/careers/.

Further general information on work-related learning can be found at the following websites:

- www.aimhighersw.ac.uk/wbl.htm – work-based learning guidance
- www.businesslink.gov.uk – local, regional business links
- www.nebpn.org – National Education and Business Partnership Network
- www.vocationallearning.org.uk – Learning and Skills Network
- www.warwick.ac.uk/wie/cei – Centre for Education and Industry, University of Warwick – work experience and workplace learning frameworks.

Indicative reading for learners

Textbooks

Baylis P, Freedman A, Procter N et al – *BTEC Level 3 National Creative Media Production, Student Book* (Pearson, 2010) ISBN 978-1846906725

Baylis P, Freedman A, Procter N et al – *BTEC Level 3 National Creative Media Production, Teaching Resource Pack* (Pearson, 2010) ISBN 978-1846907371

Berger J – *Ways of Seeing* (Penguin, 2008) ISBN 978-0141035796

Collier D and Cotton B – *Design for Desktop Publishing* (Headline, 1989) ISBN 978-0891342854

Crowley D – *Magazine Covers* (Mitchell Beazley, 2003) ISBN 978-1840006988

Dalley T – *Complete Guide to Illustration and Design* (Quantum Books, 2003) ISBN 978-1861607249

Fiell C – *Graphic Design for the 21st Century* (Taschen, 2003) ISBN 978-3822816059

Gatter M – *Getting it Right in Print: Digital Prepress for Graphic Designers* (Laurence King, 2005) ISBN 978-1856694216

Gordon B and Gordon M (editors) – *The Complete Guide to Digital Graphic Design* (Thames & Hudson, 2005) ISBN 978-0500285602

Pipes A – *Production for Graphic Designers, 5th Edition* (Laurence King, 2009) ISBN 978-1856696012

Williams R – *The Non-Designer's Design Book* (Peachpit Press, 2008) ISBN 978-0321534040

Websites

www.adobe.com – the Adobe website contains useful information and resources, including training materials, forums, downloadable trial software and players, news and so on

www.commarts.com – US based communication arts magazine featuring articles, profiles, portfolios etc focusing on graphic design

www.computerarts.co.uk – the website of the Computer Arts magazine has useful tutorials as well as reviews, competitions, forums and downloads

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 ...
Independent enquirers	analysing and evaluating information, judging its relevance and value when describing different forms of digital graphic file formats and applications exploring issues, events or problems from different perspectives when identifying and gathering material to inform their design work
Creative thinkers	trying out alternatives or new solutions and following ideas through, adapting ideas as circumstances change when producing ideas and originating digital graphic designs
Reflective learners	assessing themselves and others, identifying opportunities and achievements when reviewing own work setting goals with success criteria for their development and work when reviewing and evaluating their own work and the work of other learners
Self-managers	organising time and resources, prioritising actions when producing digital graphics working towards goals, showing initiative, commitment and perseverance when sourcing and preparing digital graphics.

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 ...
Team workers	collaborating with others to work towards common goals when sourcing and preparing digital graphics when working in a group
Effective participators	discussing issues of concern when creating a product which responds to a community need.

● Functional Skills – Level 2

Skill	When learners are ...
ICT – Use ICT systems	
Select, interact with and use ICT systems independently for a complex task to meet a variety of needs	designing digital graphics according to a given brief
Use ICT to effectively plan work and evaluate the effectiveness of the ICT system they have used	creating an action plan reviewing end products
Manage information storage to enable efficient retrieval	working on creating and producing digital graphics
Follow and understand the need for safety and security practices	
Troubleshoot	
ICT – Find and select information	
Select and use a variety of sources of information independently for a complex task	sourcing and creating digital graphics for a production brief and adapting them for use
Access, search for, select and use ICT-based information and evaluate its fitness for purpose	
ICT – Develop, present and communicate information	
Enter, develop and format information independently to suit its meaning and purpose including: <ul style="list-style-type: none"> • text and tables • images • numbers • records 	presenting production plans and proposals
Bring together information to suit content and purpose	creating digital graphics, combining image and text, for a specific target audience to a given brief
Present information in ways that are fit for purpose and audience	
Evaluate the selection and use of ICT tools and facilities used to present information	reviewing and evaluating own work
Select and use ICT to communicate and exchange information safely, responsibly and effectively including storage of messages and contact lists	communicating and sharing information with other members of a production group

Skill	When learners are ...
Mathematics	
Understand routine and non-routine problems in a wide range of familiar and unfamiliar contexts and situations	using estimation and calculation to plan the design and production of digital graphics
Identify the situation or problem and the mathematical methods needed to tackle it	using calculation when working out scaling and image resolutions
Select and apply a range of skills to find solutions	
Use appropriate checking procedures and evaluate their effectiveness at each stage	
Interpret and communicate solutions to practical problems in familiar and unfamiliar routine contexts and situations	
Draw conclusions and provide mathematical justifications	
English	
Speaking and listening – make a range of contributions to discussions and make effective presentations in a wide range of contexts	developing ideas for digital graphics
Reading – compare, select, read and understand texts and use them to gather information, ideas, arguments and opinions	researching material for digital graphics
Writing – write documents, including extended writing pieces, communicating information, ideas and opinions, effectively and persuasively	describing digital graphics production techniques.