

# L2 Unit 21: Creating computer graphics (2010)

## Learning outcomes

By completing this unit candidates will develop their knowledge of different types of graphics that can be used in web pages.

Candidates will be able to:

- research, collect and describe a range of existing graphics used on web pages
- plan the production of a range of web graphics for a client
- create a navigation bar
- create a set of navigation buttons
- create an advertising banner
- present work to a client for a specific purpose, using a suitable format for display.

**The use of pre-defined design sets or templates is not permitted in this unit.**

**It is anticipated that a candidate will require 20 guided learning hours to complete this unit.**

Assessment objectives	Knowledge, understanding and skills
1 Research, collect and describe a range of existing graphics used on web pages	<b>Research and collect graphics</b> from existing web pages eg: <ul style="list-style-type: none"><li>• graphical navigation bars</li><li>• navigation buttons</li><li>• advertising banners</li><li>• web icons</li></ul> Describe: <ul style="list-style-type: none"><li>• target audience</li><li>• purpose of graphics</li><li>• suitability for purpose</li><li>• impact of graphics</li><li>• size details (physical dimensions and file size)</li></ul>
2 Plan the production of a range of web graphics for a client	Produce sketch diagrams for: <ul style="list-style-type: none"><li>• navigation bar</li><li>• navigation buttons</li><li>• advertising banner</li></ul> For each web graphic consider: <ul style="list-style-type: none"><li>• target audience</li><li>• purpose/message</li><li>• housestyle eg colours, text size, colour, style</li><li>• dimensions (width and height)</li><li>• features eg rollovers, user interaction</li><li>• target file size</li><li>• download times</li></ul>

Assessment objectives	Knowledge, understanding and skills
3 Create a navigation bar	<p>Consider:</p> <ul style="list-style-type: none"> <li>• dimensions (width and height)</li> <li>• resolution</li> <li>• background colour/transparency</li> <li>• suitable colours and contrast</li> <li>• combining text and images</li> <li>• house style</li> <li>• suitability for purpose and audience</li> <li>• optimising for use on the www eg finding the best balance between image quality, colours, file format, file size, download time</li> <li>• saving using suitable file type(s) for use on the www eg jpeg, gif</li> <li>• saving in other file formats not native to the software</li> </ul> <p>Navigation options eg:</p> <ul style="list-style-type: none"> <li>• text</li> <li>• icons</li> <li>• expanding/collapsing menus</li> </ul>
4 Create a set of navigation buttons	<p>Consider:</p> <ul style="list-style-type: none"> <li>• dimensions (width and height)</li> <li>• resolution</li> <li>• background colour/transparency</li> <li>• using vector tools, drawing shapes</li> <li>• adapting existing images</li> <li>• suitable colours and contrast</li> <li>• combining text and graphics</li> <li>• interactivity eg rollovers</li> <li>• house style</li> <li>• suitability for purpose and audience</li> <li>• optimising for the www eg finding the best balance between image quality, colours, file format, file size, download time</li> <li>• saving using suitable file type(s) for use on the www eg jpeg, gif</li> <li>• saving in other file formats not native to the software</li> </ul>
5 Create an advertising banner	<p>Consider:</p> <ul style="list-style-type: none"> <li>• dimensions (width and height)</li> <li>• resolution</li> <li>• combining graphics and text</li> <li>• suitability for purpose and audience</li> <li>• user interaction eg: <ul style="list-style-type: none"> <li>– rollover effects</li> <li>– on hover, on mouse click</li> <li>– user controls eg start/stop buttons, video controls</li> </ul> </li> <li>• animation considering eg: <ul style="list-style-type: none"> <li>– number of frames</li> <li>– frame rate</li> <li>– speed/smoothness of movement</li> <li>– suitable content</li> </ul> </li> </ul> <p style="text-align: right;">(continued)</p>

Assessment objectives	Knowledge, understanding and skills
	<ul style="list-style-type: none"> <li>– effectiveness of message</li> <li>• optimising for the www eg finding the best balance between image quality, colours, file format, file size, download time</li> <li>• saving using suitable file type(s) for use on the www eg swf, animated gif</li> </ul>
6 Present work to a client for a specific purpose, using a suitable format for display	<p>Consider:</p> <ul style="list-style-type: none"> <li>• suitable presentation formats</li> <li>• presentation format that will retain features of graphics eg interactivity, animation, rollovers</li> </ul> <p>Present graphics in a suitable format eg:</p> <ul style="list-style-type: none"> <li>• mockup of web page</li> <li>• slide presentation</li> <li>• colour printouts</li> </ul>

## 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

An OCR model assignment is available for this unit and can be downloaded from our website: [www.ocr.org.uk](http://www.ocr.org.uk).

This unit is intended to follow on from Unit 3: Digital Imaging (although the completion of Unit 3 is not a pre-requisite) as it covers a different range of graphic skills. This unit could also be combined with Unit 2: Webpage creation as candidates will produce a range of graphics that can be used on a web page.

Candidates are being assessed on their graphic skills in this unit. There is no requirement in this unit for the graphics that are part of a navigation system to function. Candidates do not need to create or test hyperlinks.

For Assessment Objective 1, candidates are expected to visit different websites, looking at how graphics are used as part of the basic 'web furniture' ie, as navigational tools or as part of an advertising strategy. It is not intended that candidates investigate the use of images in general on web pages. When looking at different websites, candidates only need to look at one page from each. The research carried out is intended to be useful in the design of candidates' own graphics. It is therefore recommended that candidates should consider navigation bars, navigation buttons and advertising banners from at least two different websites. The websites could be suggested by the centre. By investigating web graphics from different websites candidates should have the

opportunity to form judgements about good and less good use of graphics as part of web pages. For the higher grades, candidates should review the physical dimensions (width and height) and the file size of graphics where this is available. Commenting on the purpose, suitability and impact of the web page or website from which the graphics were taken does not meet the requirement of this assessment objective; the comments made must relate to the individual graphics. Evidence for this assessment objective could be a document or presentation illustrating, through the use of screenshots or downloaded graphics, the different uses observed. Although candidates may be given some structure eg a review form with some prompts to help them explore specific aspects of each graphic, any forms provided must not be too directed, for example, open questions should be used, which encourage descriptive and evaluative answers. Candidates should also be encouraged to discuss positive and negative aspects of each graphic related to its particular purpose. These aspects are unlikely to be prompted by a prescriptive writing frame. To be credited as comments on the different graphics, the comments must be clearly different and must be appropriate to the graphics being reviewed. It is therefore inappropriate to give credit for the same or similar comments made for each graphic.

For Assessment Objective 2, candidates should describe the purpose and target audience for the different types of graphic that they will create. Candidates must describe the target audience appropriately, for example, stating that the target audience is 'everybody' is not acceptable. It is likely that the target audience will be the same for all graphics and that this will influence the house style. It is therefore appropriate for these to be considered once, for all graphics. However, each graphic designed will have a different purpose, so this should be identified separately for each graphic designed.

Using the knowledge gained from their review of existing graphics to inform their designs, candidates should produce sketches for three different types of 'web furniture' to include a navigation bar, a range of buttons that could be used as part of a navigation system and an advertising banner. Above Pass level, consideration of the size of each graphic, should be at the planning stage, where candidates will consider the physical dimensions (width and height) of the graphics they are planning, as well as target file sizes, considering download times. Care should be taken to ensure that each graphic is fit for purpose and suitable for the medium and the target audience.

Design sketches may be hand-drawn or produced electronically eg using word processing or presentation software, however, it is essential that all graphics are planned before candidates begin creating any of the graphics. When creating the graphics in the software, candidates may make improvements, resulting in their final graphics being different to the original sketches. This is acceptable, however this must be annotated on the plan. Candidates must not alter their plans retrospectively, rather they need only explain the improvements they have made and why.

Assessment Objective 3 requires candidates to produce a navigation bar that could be used on a website. The number of menu choices is not prescribed, instead candidates should consider suitability for purpose and audience. It is not intended that the navigation should give access to a huge number of pages; it should give a flavour of what could be included on it. Similarly the method of creating the navigation bar is not prescribed, candidates may create a table using text and different icons, or they may use a navigation bar with an expanding/collapsing system of navigation or they could adapt/insert existing images. When creating their navigation bar, higher level candidates should adhere to the house style they identified in their plans. Above Pass level there must be evidence to show the use of a suitable file type. For Distinction level, candidates must also produce explicit evidence (eg using screenshots) of optimising their navigation bar. This might show some experimentation with different file types, resolution and quality settings in order to find the most appropriate settings without deteriorating the quality. Evidence of the navigation bar may be the final electronic file saved in a suitable file format or sufficient printouts to demonstrate the actual system produced. There is no need to show the techniques used.

Assessment Objective 4 requires candidates to create a set of navigation buttons. Navigation can be taken in its widest sense eg to other pages, to send an email, to go a shopping basket/checkout, add to basket. It is intended that the buttons could be used on different parts of a web page as navigational tools. Buttons should **not** be created using standard button templates available in some software. Candidates should be encouraged to be creative and explore the tools and techniques of the software. They may create the buttons from scratch using, for example, the vector/shape tools in the software or they could insert existing images or they could use existing images as a basis for their buttons. However, if doing so, it is important that candidates use ICT tools and techniques to adapt the images to make them into buttons for a specific purpose. It is not acceptable to simply use an existing image or selection from an image as a button. The buttons might contain text only, or may use suitable icons or may combine text and images. For Distinction level, the buttons should be interactive, for example, candidates could create different button states to create rollover effects. When creating their navigation buttons, higher level candidates should adhere to the house style they identified in their plans. The buttons produced must be entirely separate and different from the components of the navigation bar. Candidates should have identified in their research the way these different types of graphics are used on commercial websites. Above Pass level there must be evidence to show the use of suitable file types. For Distinction level, candidates must also produce explicit evidence (eg using screenshots) of optimising their navigation buttons. This might show some experimentation with different file types, resolution and quality settings in order to find the most appropriate settings without deteriorating the quality.

Evidence of the navigation buttons may be the final electronic files saved in a suitable file format or sufficient printouts to demonstrate the features used. There is no need to show the techniques used, however there should be an indication as to whether candidates have created the buttons from scratch or whether they have adapted existing graphics. This could be evidenced by individual, detailed Tutor Witness Statements or an annotation on the design work created for Assessment Objective 2.

In order to achieve Assessment Objective 5, candidates must produce a suitable advertising banner for use on a web page. For Merit level, the banner must include some form of user interaction, for example rollover effects that change on hover or on mouse click, or user controls eg start/stop buttons, or video controls. It is intended that the user interactivity will be a feature of the graphic. This is **not** met by adding a hyperlink. For Distinction level, the banner must be animated. The inclusion of an animated image eg a piece of animated clip art is insufficient to say that an 'animated banner' has been produced. Inclusion of user interaction at Distinction is not a requirement although candidates may do so if they wish. Evidence may be the final electronic file saved in a suitable file format or sufficient printouts to demonstrate the features used. There is no need to show the techniques used. Above Pass level there must be evidence to show the use of a suitable file type. For Distinction level, candidates must also produce explicit evidence (eg using screenshots) of optimising their advertising banner. This might show some experimentation with different file types, resolution and quality settings in order to find the most appropriate settings without deteriorating the quality. For the higher grades, the file type selected must retain the features used eg user interaction or animation.

Assessment Objective 6 requires candidates to select a suitable medium to use to present all their graphics. One of the more effective methods of displaying the graphics is through a single mock-up web page where the created web graphics produced for assessment objectives 3, 4 and 5 are displayed. This allows all graphics and features used (eg interactivity, rollovers, expanding/collapsing menus) to be displayed effectively and also allows assessment objectives 3, 4 and 5 to be assessed. Alternatively, presentation software or simply printing out the different graphics in colour could also be used.

## 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 Users (e-skills UK)	SBS2	Specialist or bespoke software Level 2
IT Users (e-skills UK)	ART2	Artwork and imaging software Level 2
IT Users 2009 (e-skills UK)	IPU: B	Improving productivity using IT
IT Users 2009 (e-skills UK)	ISF:FS:B	IT software fundamentals
IT Users 2009 (e-skills UK)	DIS:B	Design and imaging software
IT Users 2009 (e-Skills UK)	BS:B	Bespoke or specialist software
IT Users 2009 (e-skills UK)	MM: B	Multimedia software
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
Business & Administration NOS (Cfa)	O8NBA317v 2	Artwork and Imaging software V2 (317)

## 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

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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

Cushing, Manson, Kelsall & Patel	<i>OCR level 2 Nationals in ICT: Units 1 and 21, student book and teacher resources</i> Payne-Gallway, ISBN: 978-1-905292-11-0
Bowman & Jones	<i>OCR National Level 2 in ICT Student Book with Dynamic Learning CD-ROM</i> Hodder Arnold. ISBN: 9780340942017, ISBN-10: 0340942010
North West Learning Grid	<i>OCR Nationals in IT (ICT)</i> North West Learning Grid
Thomas Telford Online	<i>OCR Nationals in ICT</i> Thomas Telford Online
Jenny Lawson	<i>OCR National Certificate in IT Level 2</i> Heinemann. ISBN: 043547149X
@tain online curriculum resources	<i>OCR Nationals in ICT</i> <i>@tain at Brooke Weston City Technology College</i>

### Websites

[http://graphicssoft.about.com/od/kidstutorials/Computer Graphics Lessons for Kids.htm](http://graphicssoft.about.com/od/kidstutorials/Computer_Graphics_Lessons_for_Kids.htm)

About.com computer graphic lessons

<http://www.rw-designer.com/how-to>

How to make a – computer graphics tutorial

[www.dettol.co.uk](http://www.dettol.co.uk)

Good example of use of buttons with icons.

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## Grading

Assessment Objective	Pass	Merit	Distinction
<b>AO1</b> Research, collect and describe a range of existing graphics used on web pages	Candidates will collect and display examples of: <ul style="list-style-type: none"> <li>• navigation buttons</li> <li>• navigation bar</li> <li>• advertising banner</li> </ul> from at least two different websites.  They will review each graphic and they will: <ul style="list-style-type: none"> <li>• describe the purpose</li> <li>• comment on the positive and negative aspects.</li> </ul>	Candidates will collect and display examples of: <ul style="list-style-type: none"> <li>• navigation buttons</li> <li>• navigation bar</li> <li>• advertising banner</li> </ul> from at least two different websites.  They will review each graphic and they will: <ul style="list-style-type: none"> <li>• describe the purpose</li> <li>• describe the suitability</li> <li>• give details of the physical dimensions</li> <li>• comment on the positive and negative aspects giving valid reasons.</li> </ul>	Candidates will collect and display examples of: <ul style="list-style-type: none"> <li>• navigation buttons</li> <li>• navigation bar</li> <li>• advertising banner</li> </ul> They will review each graphic and they will: <ul style="list-style-type: none"> <li>• describe the purpose and target audience</li> <li>• describe the suitability and impact</li> <li>• give details of the physical dimensions</li> <li>• describe the positive and negative aspects giving valid reasons.</li> </ul> They will identify the file size where this is available.
<b>AO2</b> Plan the production of a range of web graphics for a client	Candidates will describe the purpose and target audience for each graphic. They will produce a basic sketch diagram for each of the following: <ul style="list-style-type: none"> <li>• three navigation buttons</li> <li>• a navigation bar</li> <li>• an advertising banner.</li> </ul>	Candidates will describe the purpose and target audience for each graphic. They will produce a detailed sketch diagram for each of the following: <ul style="list-style-type: none"> <li>• three navigation buttons</li> <li>• a navigation bar</li> <li>• an advertising banner.</li> </ul> For each graphic they will consider the dimensions (width and height) They will identify a housestyle for their graphics. When creating each graphic they will mostly adhere to this house style.	Candidates will describe the purpose and target audience for each graphic. They will produce a detailed sketch diagram for each of the following: <ul style="list-style-type: none"> <li>• three navigation buttons</li> <li>• a navigation bar</li> <li>• an advertising banner.</li> </ul> For each graphic they will consider the dimensions and target file size, considering download times.  <div>continued</div>



Assessment Objective	Pass	Merit	Distinction
			<p>They will identify a house style for their graphics. When creating each graphic they will adhere to this house style.</p> <p>The sketches will cover all content and features, will be logical, well structured and could be followed by a third party.</p>
<b>AO3</b> Create a navigation bar	Candidates will <b>create</b> a basic navigation bar that: <ul style="list-style-type: none"> <li>• uses <b>text and graphics</b></li> <li>• is suitable for purpose.</li> </ul>	Candidates will <b>create</b> a navigation bar that: <ul style="list-style-type: none"> <li>• uses text and graphics of good quality</li> <li>• uses suitable colours, which are combined together well</li> <li>• mostly adheres to the house style identified in the plans</li> <li>• uses suitable file type(s)</li> <li>• is suitable for purpose and audience.</li> </ul> <p>The navigation bar should be effective.</p>	Candidates will <b>create</b> an effective navigation bar that: <ul style="list-style-type: none"> <li>• uses expanding/collapsing menus</li> <li>• uses text and graphics of good quality,</li> <li>• uses suitable colours, which are combined together well</li> <li>• adheres to the house style identified in the plans</li> <li>• is optimised for use on the web</li> <li>• uses suitable file type(s)</li> <li>• is suitable for purpose and audience.</li> </ul> <p>The navigation bar should be near-professional quality.</p>

Assessment Objective	Pass	Merit	Distinction
<b>AO4</b> Create a set of navigation buttons	Candidates will create three separate, navigation buttons that are suitable for purpose.	Candidates will create three separate, navigation buttons that: <ul style="list-style-type: none"> <li>• mostly adhere to the house style identified in the plans</li> <li>• combine colours and features effectively</li> <li>• uses suitable file types</li> <li>• are suitable for purpose and audience.</li> </ul> The navigation buttons should be effective	Candidates will create three separate, navigation buttons that: <ul style="list-style-type: none"> <li>• are interactive</li> <li>• adhere to the house style identified in the plans</li> <li>• combines all colours and features effectively</li> <li>• uses suitable file types</li> <li>• is optimised for use on the web</li> <li>• are suitable for purpose and audience.</li> </ul> The navigation buttons should be near-professional quality.
<b>AO5</b> Create an advertising banner	Candidates will create a static advertising banner, combining text and graphics. This should be suitable for purpose.	Candidates will create an advertising banner that has some form of user interaction. This should: <ul style="list-style-type: none"> <li>• combine text and graphics well.</li> <li>• combine colours and features effectively</li> <li>• mostly adhere to the house style identified in the plans</li> <li>• uses suitable file type(s)</li> <li>• be suitable for purpose and audience.</li> </ul> The advertising banner should be effective.	Candidates will create an animated advertising banner. This should: <ul style="list-style-type: none"> <li>• combine text and graphics effectively.</li> <li>• combine all colours and features effectively</li> <li>• mostly adhere to the house style identified in the plans</li> <li>• uses suitable file type(s)</li> <li>• be optimised for use on the web</li> <li>• be suitable for purpose and audience.</li> </ul> The advertising banner should be near-professional quality.

Assessment Objective	Pass	Merit	Distinction
<b>AO6</b> Present work to a client for a specific purpose, using a suitable format for display	Candidates will present all their graphics in a suitable format.	Candidates will present all their graphics effectively in a suitable format that they have selected. All features (eg interactivity) must be retained.	Candidates will consider suitable presentation formats for displaying web graphics. They should select a suitable format and present all their graphics effectively. All features (eg interactivity, animation) must be retained.