OCR
Oxford Cambridge and RSA

Unit Title:	**Design software**
OCR unit number:	29
Level:	3
Credit value:	5
Guided learning hours:	40
Unit reference number:	A/502/4574

Unit purpose and aim

This is the ability to use a software application designed to create, modify and layout artwork for display in print or on a screen.

This unit is about the skills and knowledge required by an IT user to select and use a wide range of advanced design software tools and techniques to complex and non-routine designs.

Design software tools and techniques will be described as advanced because:

- the software tools and functions used will be complex and at times require new learning, which will involve having the idea that there may be a tool or function to do something (e.g. improve efficiency or create an effect), exploring technical support, self-teaching and applying;
- the inputting, manipulating and outputting techniques will be multi-step and complex, and will involve research, identification and application; and
- the user will take full responsibility for inputting, structuring, editing and presenting the information.

Learning Outcomes	Assessment Criteria	Examples
The learner will: 1 Obtain, insert and combine information for designs	The learner can: 1.1. Explain what designs are needed 1.2. Explain how the context affects the way designs should be prepared 1.3. Provide guidance on what and how any copyright or other constraints may apply to the use of own and others' designs 1.4. Obtain, insert and prepare designs 1.5. Explain how file format affects design quality, format and size and how to choose appropriate 1.6. Use appropriate	Designs or images: Designs or images will vary according to the task for example, photos from a digital camera, scanned images, graphic elements, drawings, clip art Prepare images: Size, crop and position Copyright constraints: Effect of copyright law (e.g. on use of other people's images), acknowledgment of sources, permissions Combine information: Insert, size, position, wrap, order, group, layer

Learning Outcomes	Assessment Criteria	Examples
	techniques to organise and combine information of different types or from different sources 1.7. Store and retrieve files effectively, in line with guidelines and conventions where available	Context for designs and images: Contexts will vary according to the software and task, for example: on screen display, publishing on a web site, hard copy print out, digital file File formats for designs and images: Will vary according to the content, for example jpg for Internet photo display, png for Internet drawing display, svg for graphic designs (the ISO standard most likely to be fully supported by web browsers); - Digital picture format (e.g. jpeg and psd) - Bitmap or raster picture formats (e.g. raw bitmaps, bmp and compressed formats jpeg and png) - Vector graphics (e.g. svg, wmf, eps, ai) - Open formats (e.g. html, odf, pdf and rtf) - Proprietary formats (e.g. pub and qxd) - Method of compression (lossy, non-lossy) Converting files between different formats (e.g. JPEG to TIFF, compression of image data or Grayscale) Store and retrieve: Save, save as, find, open, close, import, export to other file formats; reduce file size
2 Use design software tools to create, manipulate and edit designs	2.1. Explain what technical factors affecting designs need to be taken into account and how to do so 2.2. Select and use suitable tools and techniques efficiently to create designs 2.3. Use guide lines and dimensioning tools appropriately to enhance	Technical factors affecting designs and images: Page or canvas size; colour mode; file size and format; image resolution; method of display or printing; colour depth; technical differences between vector and bitmap or raster graphics Create designs and images: Draw basic shapes and edit

Learning Outcomes	Assessment Criteria	Examples
	precision 2.4. Select and use appropriate tools and techniques to manipulate and edit designs 2.5. Check designs meet needs, using IT tools and making corrections as necessary 2.6. Identify and respond appropriately to quality problems to ensure that outcomes are fit for purpose and meet needs	vector properties to create new and more complex shapes; download digital photos from a camera; scan and resize images; add text and other elements such as lines, boxes and arrows; create more complicated designs using painting, drawing or image manipulation software; use layers for different elements (e.g. background, picture and text); use bleeds and crossovers; three dimensional (3D) objects and designs Manipulate and editing techniques: Basic techniques – align, rotate, flip, arrange, cut, paste, resize, change font, text and colour, group, ungroup Image manipulation software – transform, scale, rotate, distort; filters, effects; colour balance, levels and curves; masks and layers Illustration software – masks and layers; rendering three dimensional (3D) objects; tracing Advanced techniques – change resolution, colour depth and file format to suit different uses; adjust images to ensure compatibility between different software and operating systems Check designs and images: Size, alignment and orientation, suitability of file format, appropriate choice of colour mode and use of filters, fitness for purpose of image resolution Quality problems with designs and images: Will vary according to the content, for example, levels, contrast, resolution, colour balance, unwanted content

Assessment

All ITQ units may be assessed using any method, or combination of methods, which clearly demonstrates that the learning outcomes and assessment criteria have been met. Assessments must also take into account the additional information provided in the unit Purpose and Aims relating to the level of demand of:

- the activity, task, problem or question and the context in which it is set;
- the information input and output type and structure involved; and
- the IT tools, techniques or functions to be used.

See the Assessment and postal moderation section of the ITQ Centre Handbook.

Evidence requirements

Candidates must complete the Evidence Checklist for this unit without gaps. Individual unit checklists are available to download from the qualification webpage (see forms).

Guidance on assessment and evidence requirements

Please refer to the ITQ centre handbook on our webpage.

Details of relationship between the unit and national occupational standards

This unit maps fully to competences outlined in IT User National Occupational Standards version 3 (2009).