**Cambridge International Diploma in ICT
Advanced Level**

Scheme of Work

5207
Advanced Graphics
Optional Module

UNIVERSITY *of* CAMBRIDGE
International Examinations

Introduction

This optional module is about manipulating multiple images and layers to create graphical documents.

What is assessed in this module?

- importing and acquiring images from external sources, for example, scanner, digital camera and file
- transformation of images by rotating, flipping, stretching, skewing and scaling
- manipulation of objects by copying, cropping, resizing, mirroring and erasing
- arrangement of objects by positioning with grids, combining and grouping
- ordering, re-arranging and flattening layers
- entering text and editing colour, size, orientation and appearance
- positioning and ordering text
- controlling colour by sampling and adding to a palette
- applying and removing colour using fill, colour, palette, mixing, texture, spot colours and colour separations
- adjustment of brightness, contrast, hues, saturation, density and graduations
- saving images in different formats, and having an awareness of differences in file size
- printing to paper, film and slide, use of screen shots to show layers
- printing directories/folders

Tutor preparation required to Deliver this Module

- suitable graphics software
- documentation showing what the students have to do
- scanner and digital camera
- film and slide for output of images
- appropriate documentation from 'general principles and procedures' below

Underpinning Knowledge

- the application of layers in an image
- acquiring images from a scanner and a digital camera
- importing an image from a file
- understanding of the need for colour separations
- differences between bitmap and vector graphics, and common formats
- image compression

General Principles and Procedures

In preparation for this module you could produce notes on the following topics:

- common graphics formats, and how they differ in file size
- image scanning
- downloading images from a digital camera
- the concept of layers
- basic methods for arranging, transforming and manipulating images and text
- how to use the palette, and how to add colours by sampling
- reasons for using colour separation

Scheme of Work

Assessment Objectives	Performance Criteria	Classroom Ideas	Resources	Notes
Advanced Graphics				
Session Plan One				
• import image • control image • enter text • control colour • save image • output image	1.1.1 2.1.2 2.2.1 2.2.2 2.3.3 3.1.1 3.2.1 3.2.2	• scan an image • adjust colours as specified • resize and crop as specified • add a title to the image • print using colour separations • save image as BMP and JPG	• image for scanning • instructions for editing to be performed • instructions for saving • instructions for printing	• provide an image to be scanned, that requires editing such as brightness, contrast, hues, saturation, resizing cropping • demonstrate the method for printing colour separations • demonstrate the differences between saving as BMP and JPG, in particular the difference in file size • explain the JPG compression settings
Session Plan Two				
• import images • control images • enter text • save image • output image	1.1.1 2.1.1 2.1.2 2.1.3 2.1.4 2.2.1 2.2.2 3.1.1 3.2.1 3.2.2	• import images, each into a separate layer • transform as specified • manipulate as specified • arrange as specified • enter text, and edit as specified • save and print as specified	• images • instructions on use of layers • instructions for editing to be performed on images and text • instructions for saving • instructions for printing	• provide images to be transformed by rotating, flipping, stretching, skewing and scaling; manipulated by copying, cropping, resizing, mirroring and erasing; arranged by combining and grouping; and positioned using a grid • each image should be placed on a separate layer • suggest a title which could be used, and provide instructions for editing

Assessment Objectives	Performance Criteria	Classroom Ideas	Resources	Notes
Session Plan Three				
• import images • control images • enter text • control colour • save image/s • output images	1.1.1 2.1.1 2.1.2 2.1.3 2.1.4 2.2.1 2.2.2 2.3.2 2.3.3 3.1.1 3.2.1 3.2.2	• exercise 1 could be used to reinforce work undertaken so far	• documentation and resources for exercise 1 • instructions for saving and printing	• exercise 1 could be used • provide an assortment of images for scanning • candidates could look at web pages on the Internet for design ideas
Session Plan Four				

• control images
• enter text
• control colour
• save images
• output images
• print directories/folders
	2.1.1
	2.1.2
	2.1.3
	2.1.4
	2.2.1
	2.2.2
	2.3.1
	2.3.3
	3.1.1
	3.2.1
	3.2.2
	3.3.1
		• exercise 2 could be used	• documentation and resources for exercise 2
			• instructions for saving and printing
				• exercise 2 could be used
				• candidates could look at web pages on the Internet for design ideas
				• provide instructions for the following:
				  - drawing basic shapes, which can be filled
				  - using selection tools
				  - using sampling tools
				  - adding colours to the palette
				  - instructions for printing appropriate directories/folders

Session Plan Five				
• undertake Advanced Graphics Specimen paper		• use for assessment of student	• specimen paper	• provide necessary documentation and resources required by the assignment

Assessment Objectives	Performance Criteria	Classroom Ideas	Resources	Notes
Session Plan Six				
		• debrief • further practice	• marked papers	
Session Plan Seven				
• undertake Advanced Graphics Assessment	All	• Advanced Graphics Assessment		