Systems and Principles Unit Syllabus

Level 3 Designing and creating advanced web sites

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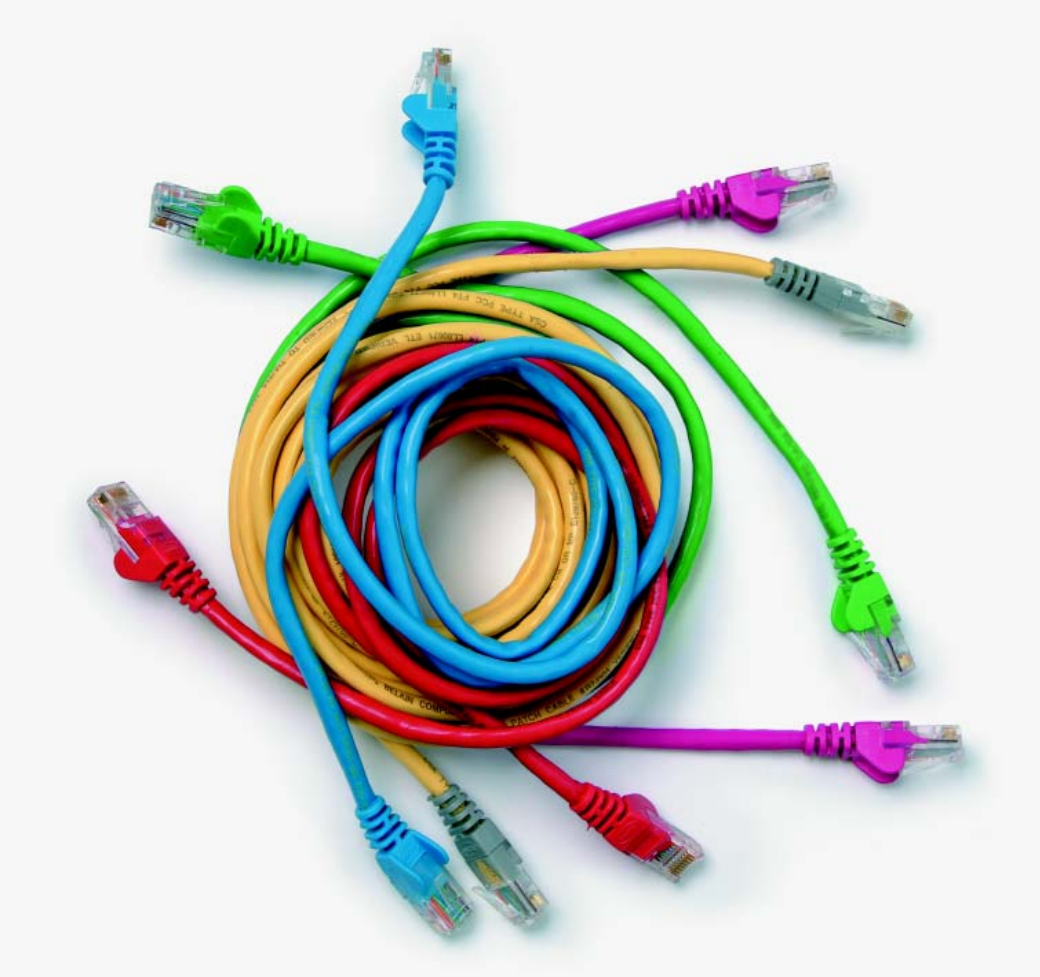

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Unit 355 Designing and creating advanced web sites

Syllabus Overview

Unit accreditation number **K/501/4008**

Credit value **16**

Rationale

The aim of this unit is provide candidates with an advanced understanding of some of the more complex parts of creating a professional business website, it allows them to competently and professionally add elements to sites that will make them easier for function and maintain. Candidates will develop a more in depth understanding of advanced website design and maintenance and the operating system as well as the ability to work in a supervisory role performing advanced tasks with high degree of competence, using problem solving skills and giving direction to others.

Learning outcomes

There are **five** outcomes to this unit. The candidate will:

- Explain the fundamentals of advanced web page development
- Undertake formal user requirements analyses
- Use appropriate development tools to implement and test interactive web pages incorporating advanced design and information presentation techniques
- Use graphics applications to create and manipulate images.
- Maintain and evaluate web sites

Guided learning hours

It is recommended that **70** guided learning hours should be allocated for this unit. This may be on a full time or part time basis.

Connections with other qualifications

This unit contributes towards the learning outcomes and assessment criteria required for the level 2 Diploma in ICT Professional Competence.

Assessment and grading

Assessment will be by means of a **set assignment** covering practical activities and underpinning knowledge.

Unit 355 Designing and creating advanced web sites

Outcome 1 Explain the fundamentals of advanced web page development

Underpinning knowledge

The candidate will be able to:

1 describe how web pages can be made more interactive (using eg VRML, DHTML and Java applets)

2 explain the purpose of XML

3 outline the different uses of scripting languages (eg CGI, VB Script, JavaScript)

4 explain scripting techniques used to interface a web page with a database to enable the presentation or interchange of up-to-date information.

Unit 355 Designing and creating advanced web sites
Outcome 2 Undertake formal user requirements analyses

Practical activities
The candidate will be able to:

1 create 'Terms of Reference' for clients to include, a statement of the requirement, a design for the web page using a suitable methodology

2 produce project plans for the incremental development of web pages including the gathering of suitable resources and timeframes including where appropriate the use of other people

4 recognise the different components of a Terms of Reference

Underpinning knowledge
The candidate will be able to:

3 explain the relevance, importance and contents of a 'Terms of Reference', when creating a web page for a third party

5 explain the importance of a design style sheet when working either to a specification or within a team environment

6 describe the constraints and limitations that must be considered when producing a web page.

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Outcome 3 Use appropriate development tools to implement and test interactive web pages incorporating advanced design and information presentation techniques

Practical activities

The candidate will be able to:

1 create web sites compatible with a range of browsers:
- a providing both a frame based and a non- frame based interface
- b incorporate JavaScript into a web page to achieve effects eg
  - i scrolling text
  - ii rollover button graphics
- c incorporate a Java applet into a web page (eg expanding menu tree)
- d using Dynamic HTML to enhance the interactivity or appeal of a web page eg
  - i layers
  - ii cascading style sheets (css)
- e interfacing a web page to a database in order to provide a web page presentation of responses to a simple query, eg
  - i a telephone number linked to a name
  - ii a product price or quantity in stock from a product code
  - iii library book availability
- f incorporating into web pages suitable forms to enable the gathering of feedback or other information from users of web pages

2 test web sites:
- a verifying all links work
- b using different browsers to preview pages and verify all components appear as expected

5 select appropriate data to be collected using a form

Underpinning knowledge

The candidate will be able to:

3 explain the importance of maintaining cross-browser compatibility

4 describe the advantages and disadvantages of a frame based interface

6 describe the terms quality, timeliness and accuracy when applied to data collected from a web site.

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Outcome 4 Use graphics applications to create and manipulate images

Practical activities

The candidate will be able to:

1 create images to predefined specifications (pixel height/width; colour depth) suitable for inclusion in web pages eg buttons used for linking
2 apply transparency to images
3 create animated GIFs for use within web pages

Underpinning knowledge

The candidate will be able to:

4 explain the factors that affect the dimensions of a button, for example:
   a quantity of text
   b font type, size and style
   c size and style of applied border
   d available space for the button(s) on a web page
5 describe what is meant by the term anti-aliasing.

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Outcome 5 Maintain and evaluate web sites

Practical activities

The candidate will be able to:

1 use a website application to manage the development of websites
2 publish (upload) websites to local or remote location Internet/intranet
3 create appropriate plans for the effective periodic maintenance and updating of web sites
4 check that a web site satisfies the 'Terms of Reference'
6 create suitable documentation for maintaining web sites to include, for each web page, a list of resources including the full path to a file name from a root directory of a web site

Underpinning knowledge

The candidate will be able to:

5 identify potential future enhancements to web sites
7 know the importance of documentation in maintaining a web site
8 know how to upload content to web page template by eg

- a copy and paste into template on www
- b ftp
- c size considerations
- d speed considerations

9 know what laws and guidelines affect day-to-day use of IT regarding content, eg

- a equal opportunities
  - i eg children, race, disability
  - ii language eg symbol use instead of just text
  - iii eg visually impaired
- b copyright, copy left, open source, GNU, data protection
- c security
- d guidelines set by employer or organisation.

Unit record sheet

Use this form to track your progress through this unit.

Tick the boxes when you have covered each outcome. When they are all ticked, you are ready to be assessed.

Outcome	✓	Date
1 Explain the fundamentals of advanced web page development	☐	
2 Undertake formal user requirements analyses	☐	
3 Use appropriate development tolls to implement and test interactive web pages incorporating advanced design and information presentation techniques	☐	
4 Use graphics applications to create and manipulate images	☐	
5 Maintain and evaluate web sites	☐	

Candidate Signature ..... **Date** .....

City & Guilds Registration Number .....

Quality nominee (if sampled) ..... **Date** .....

Assessor Signature ..... **Date** .....

External Verifier Signature (if sampled) ..... **Date** .....

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