Unit 21: Hosting and managing websites (LEVEL 3)

Learning outcomes

By completing this unit candidates will develop a thorough knowledge of how a website is hosted and managed, once the initial design and development is complete. They will gain an understanding of the services offered by web hosting providers, publishing websites, search engine promotion, using server-side scripts, site maintenance and monitoring site usage.

Candidates will produce evidence to meet the unit assessment objectives in order to show that they understand how to:

- specify website hosting requirements

- upload a website and test all features

- implement server-side scripts

- promote a website

- maintain a website

- monitor usage and performance.

It is anticipated that a candidate will require 60 guided learning hours to complete this unit.

Assessment objectives	Knowledge, understanding and skills
1 Specify website hosting requirements	Produce a specification of requirements: eg • domain name(s) • disk space • monthly traffic • FTP access • log files (usage reports) • platform specification (and support for scripting, databases, other) • technical support • additional features eg security, streaming, backup, other
2 Upload a website and test all features	Upload files to a web server: eg • FTP client software • browser-based file management Folder management, file extensions and using appropriate naming conventions Testing that pages, resources and hyperlinks operate correctly
3 Implement server-side scripts and outline the relevant legal considerations	Design and add interactive features using server-side scripts: eg • form elements eg label, text field, button, checkbox, other • CGI programming eg ASP, ASP.NET, JSP, PHP, other • sending responses to the browser, to a file or database Outline the relevant legislation Testing and troubleshooting

Assessment objectives	Knowledge, understanding and skills
4 Promote a website	Promotion methods: eg • identify key phrases (keywords) for search engine promotion • basic web page optimisation techniques (for search engines) eg meta keyword tag, meta description tag, title tag, ALT tag, keywords in the body text, other • directories • 'Paid for' and reciprocal links
5 Maintain a website	Produce a maintenance guide for users: eg • site map • editing a page • general guidelines eg use of ALT tags, page titles, other • file/folder naming conventions • uploading Undertake quality assurance: eg • spelling and grammar checks • links (internal, external, relative, absolute) • image aspect ratio, resolution/dimensions • consistent styles • cross browser testing • accessibility • validation (conformance to W3C recommendations)
6 Describe how to monitor website usage and performance	Tools to monitor usage: eg • raw log files • log file analysis programs • hit counters Analysis of usage reports: eg • hits, page views and unique visitors • popular pages, days, time of day • session duration • browser and operating system • referring sites • failed/broken links

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

Candidates may provide portfolio evidence for this unit using a range of suitable and appropriate techniques. These may include written data, the use of video, audio presentation and visual presentations within the body of the portfolio and display evidence. Where presentations or displays have taken place for which evidence cannot be easily included within the portfolio evidence assessor testimony/witness statements must be included, signed by the assessor(s), and supported by appropriate evidence (handouts, slides, electronic files etc).

Centres may wish to organise a link with a local business and write an assignment accordingly. This may be useful in the early stages of the course.

This unit is designed to be taken in conjunction with Unit 20: Web Authoring. Candidates will use the website created in Unit 20 as the basis for tasks in this unit. If candidates have not completed Unit 20 then they will need to create a website to be used for this unit. The website could have been created for another qualification or the candidates could create a new website from scratch. It is likely that they will need to make alterations to the website in order to meet the tasks eg add meta tags to aid promotion. It is essential that candidates have the facility to upload their website to the internet or to an in-house web server that is accessible from the centre's network.

The assessment objectives must be assessed separately.

For Assessment Objective 1, candidates should review the services offered by commercial website hosting providers (although they may not actually use them for hosting their own website due to cost constraints). Candidates should include printouts of web pages for the hosting packages they have chosen. For higher levels candidates must justify their choices with a clear explanation of the relevant features of the package.

For Assessment Objective 2, it is anticipated that candidates will make use of free/low cost or internal web hosting services. In these circumstances it is essential that the requirements of Assessment Objectives 3 and 6 are taken into account ie provision for server-side scripting and access to usage statistics. Candidates should include screenshots to demonstrate the method used for file upload. It is not essential to use FTP, for instance where the web hosting provider only provides browser-based file management. Candidates should include printouts that correspond to the tests carried out. For Distinction candidates must show evidence of organising resources in an appropriate folder hierarchy eg images, style sheets, etc. The website should be uploaded for a period of time that covers the moderator's visit.

For Assessment Objective 3, candidates must implement a feature, using a server-side script, to capture feedback from the visitor. Although the form must be a custom design, the code for processing the form may be sourced or adapted from available sources. For higher levels candidates must implement two additional scripts. For Distinction one of the three scripts must be the student's own creation or show clear evidence of significant modification/customisation. In all cases, sources should be acknowledged along with any usage constraints specified by the originator.

Evidence for Assessment Objective 4, could include printouts of the source code for relevant pages, clearly annotated to show how the page has been optimised for search engine indexing. Alternatively electronic files of the source code annotated to show optimisation could be provided. For the purposes of assessment candidates are not required to submit their pages to search engines or directories. Distinction candidates need to have a website of at least 5 pages.

For Assessment Objective 5, candidates must produce user documentation aimed at third-parties who may need to add or make adjustments to website content. In producing their documentation candidates can assume that these users are familiar with website authoring tools and HTML.

For Assessment Objective 6, candidates should be able to describe how they would monitor website usage and performance. It is unlikely that candidates will be able to monitor their own websites and, therefore, it would be useful for candidates to have access to web server log files and/or usage reports. Candidates should be able to describe how they would monitor website usage and performance.

Signposting to Key Skills

✓ The unit contains opportunities for developing the Key Skill, and possibly for generating portfolio evidence, if teaching and learning is focused on that aim. Assessing staff will need to check each candidate's evidence against the specifications to ensure all evidence requirements have been met. Additional evidence may also be required.

Key Skill reference		Key Skill reference		Key Skill reference	
C3.1a		N3.1		ICT3.1	✓
C3.1b	✓	N3.2		ICT3.2	✓
C3.2	✓	N3.3		ICT3.3	✓
C3.3	✓				

Mapping to National Occupational Standards

Occupational Standards (e-skills UK)	Title
IT Users	Information Management
IT Users	Internet and intranets
IT Users	IT maintenance for users
IT Users	IT security for users
IT Users	Make selective use of IT
IT Users	Operate a computer
IT Users	Specialist or bespoke software
IT Users	Website software
IT Professional Telecommunications	Data analysis and data structure design
IT Professional Telecommunications	Investigating and defining requirements
IT Professional Contact Centres Telecommunications	Managing people and resources (Imported Units)
IT Professional Telecommunications	Managing software development
IT Professional Telecommunications	Quality management of ICT products and services
IT Professional Telecommunications	Security of ICT systems
IT Professional Telecommunications	System management
IT Professional	System operation

Telecommunications	
IT Professional Telecommunications	Technical fault diagnosis
IT Professional Telecommunications	Testing ICT systems
IT User (for export to other sectors)	General uses of IT
IT User (for export to other sectors)	Purposes for using IT
IT User (for export to other sectors)	Use IT software
IT User (for export to other sectors)	Use IT to exchange information

Resources

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 correct at the time of production.

Websites

Analog. URL:http://www.analog.cx/
Web server log file analyser (available under GPL).

Brinkster. URL:http://www.brinkster.com/FreePkgLanding.aspx
Website hosting (includes free hosting).

Google. URL:https://adwords.google.com/select/KeywordToolExternal
Google keyword tool that helps identify popular keywords and phrases.

Search Engine Watch. URL:http://forums.searchenginewatch.com
Forum for discussions about search engine optimisation.

W3C. URL:http://validator.w3.org
W3C markup validation service.

W3 Schools. URL:http://www.w3schools.com/hosting/default.asp
Web hosting tutorials.

Webalizer. URL:http://www.mrunix.net/webalizer
Web server log file analyser (available under GPL).

Wikipedia – Web Analytics. URL:http://en.wikipedia.org/wiki/Web_analytics

Wikipedia – Web Hosting. URL:http://en.wikipedia.org/wiki/Web_hosting_service

Grading

Assessment Objective	Pass	Merit	Distinction
AO1 Specify website hosting requirements	Candidates identify an appropriate and available domain name for their website. Candidates identify **a** suitable website hosting package and describe the main features in **basic** terms.	Candidates identify an appropriate and available domain name and **domain suffix** for their website. Candidates **identify two** alternative website hosting packages. They **justify** their choice with a **clear** explanation of the main features, including the scripting language(s) supported.	Candidates identify an appropriate and available domain name and **domain suffix** for their website. Candidates **compare two** alternative website hosting packages. They **fully justify** their choice with a **clear** explanation of the main features, including the scripting language(s) supported.
AO2 Upload a website and test all features	Candidates upload their website to a web server. Candidates provide **basic** evidence of testing that all pages, resources and hyperlinks operate correctly. Candidates **may not** use appropriate file naming conventions.	Candidates upload their website to a web server. Candidates provide **detailed** evidence of testing and ensure that all pages, resources and hyperlinks operate correctly. Candidates **use** appropriate file naming conventions.	Candidates upload their website to a web server. Candidates provide **comprehensive** evidence of testing and ensure that all pages, resources and hyperlinks operate correctly. Candidates **organise** files in a folder hierarchy and **use** appropriate file and folder naming conventions.

Assessment Objective	Pass	Merit	Distinction
AO3 Implement server-side scripts and outline the relevant legal considerations	Candidates produce a **basic** design plan for a website feature that will capture feedback from visitors. They outline **briefly** the appropriate legal considerations. Candidates implement the feature using server-side scripting, capturing user feedback in an email, file or database and provide evidence of testing. There is **some** acknowledgement of information sources used.	Candidates produce a **detailed** design plan for a website feature that will capture feedback from visitors. They outline **clearly** the impact of appropriate legal considerations. Candidates **fully** implement the feature using server-side scripting, capturing user feedback in a file or database. They provide **detailed** evidence of testing. Candidates **implement** at least **two** additional server side scripts, produce an accurate summary of how they function and clearly acknowledge the information sources used.	Candidates produce a **comprehensive** design plan for a website feature that will capture feedback from visitors. They outline **in full** the impact of appropriate legal considerations. Candidates **fully** implement the feature using server-side scripting, capturing user feedback in a file or database. They provide **comprehensive** evidence of testing. Candidates **implement** at least **two** additional server side scripts, produce an accurate and concise summary of how they function and clearly acknowledge the information sources used. At least **one** script should be original or significantly customised.
AO4 Promote a website	Candidates identify **some** keywords or key phrases for search engine optimisation, with **little** or **no** supporting evidence. Candidates show **basic** evidence of optimising at least **one** page of their website for their chosen keywords. Candidates provide a **basic** description of methods for generating traffic to their website, supported with **few** or **no** examples.	Candidates identify **many** appropriate keywords and key phrases for search engine optimisation, with **some** supporting evidence. Candidates show **detailed** evidence of optimising at least **three** pages of their website using **appropriate** keywords based upon the content of the page. Candidates provide a **detailed** description of **appropriate** methods for traffic generation to their website, supported with **appropriate** examples.	Candidates identify the **most effective** keywords and key phrases for search engine optimisation, with **justification** and supporting evidence. Candidates show **comprehensive** evidence of optimising at least **five** pages of their website using **effective** keywords based upon the content of the page. Candidates provide a **comprehensive** description of **effective** methods for traffic generation to their website, supported with a variety of **well chosen** examples.

Assessment Objective	Pass	Merit	Distinction
AO5 Maintain a website	Candidates produce **basic** user documentation for editing and uploading pages. They provide evidence that they have made **some** changes to the site since it was uploaded.	Candidates produce **clear** user documentation for editing and uploading pages. They make **some** changes to the site after uploading, and provide evidence of quality assurance.	Candidates produce **clear** user documentation for editing and uploading pages; clear and appropriate technical language is used. They make **some** changes to the site after uploading, and provide **comprehensive** evidence of quality assurance and corrections.
AO6 Describe how to monitor website usage and performance	Candidates provide a **simple** description of how they would monitor website usage and performance.	Candidates provide a **clear** description of how they would monitor website usage and performance.	Candidates provide a **detailed** description of how they would monitor website usage and performance. They **identify** how they could use the results of analysis reports to improve their website.