Cambridge TECHNICALS LEVEL 3

IT

Cambridge TECHNICALS 2016

Unit 21 – Web design and prototyping
DELIVERY GUIDE

Version 2

CONTENTS

INTRODUCTION

This Delivery Guide has been developed to provide practitioners with a variety of creative and practical ideas to support the delivery of this qualification. The Guide is a collection of lesson ideas with associated activities, which you may find helpful as you plan your lessons.

OCR has collaborated with current practitioners to ensure that the ideas put forward in this Delivery Guide are practical, realistic and dynamic. The Guide is structured by learning outcome so you can see how each activity helps you cover the requirements of this unit.

We appreciate that practitioners are knowledgeable in relation to what works for them and their learners. Therefore, the resources we have produced should not restrict or impact on practitioners' creativity to deliver excellent learning opportunities.

Whether you are an experienced practitioner or new to the sector, we hope you find something in this guide which will help you to deliver excellent learning opportunities.

If you have any feedback on this Delivery Guide or suggestions for other resources you would like OCR to develop, please email resources.feedback@ocr.org.uk.

OPPORTUNITIES FOR ENGLISH AND MATHS SKILLS DEVELOPMENT AND WORK EXPERIENCE

We believe that being able to make good progress in English and maths is essential to learners in both of these contexts and on a range of learning programmes. To help you enable your learners to progress in these subjects, we have signposted opportunities for English and maths skills practice within this resource. We have also identified any potential work experience opportunities within the activities. These suggestions are for guidance only. They are not designed to replace your own subject knowledge and expertise in deciding what is most appropriate for your learners.

English   123 Maths   Work

Please note

The timings for the suggested activities in this Delivery Guide **DO NOT** relate to the Guided Learning Hours (GLHs) for each unit.

Assessment guidance can be found within the Unit document available from www.ocr.org.uk.

The latest version of this Delivery Guide can be downloaded from the OCR website.

UNIT AIM

Organisations are increasingly reliant on their websites to market goods or services and interact with clients and customers. As technology develops, so does the scope of functionality of websites and the importance of an effective design that meets the needs of the organisation. In this unit you will research, design and produce an interactive, responsive website that is specific to a client's needs, culminating in presenting the concept of the website using the prototype to the client. You will learn about the security risks in website design and how to minimise these threats. This unit will also allow you to incorporate existing interactive elements, as well as prototyping your own website.

This unit is optional within the Application Developer specialist pathway. Job roles within this pathway include web app developers as well as website designers, although these are different jobs with differing requirements, they do require similar skills, knowledge and understanding with respect to website creation and prototyping.

Unit 21 Web design and prototyping	
LO1	Understand the fundamentals of web design
LO2	Be able to plan the development of an interactive website for an identified client
LO3	Be able to create prototype websites for an identified client
LO4	Be able to present the interactive website concept to an identified client

To find out more about this qualification please go to: http://www.ocr.org.uk/qualifications/cambridge-technicals-it-level-3-certificate-extended-certificate-introductory-diploma-foundation-diploma-diploma-05838-05842-2016-suite

The activities within this teaching and learning resource must not be used for summative assessment purposes. As part of our teaching we expect support to be given to your learners; such support is not permissible for summative assessment and is likely to be considered malpractice.

Cambridge TECHNICALS 2016

2016 Suite

- **New suite for first teaching September 2016**
- **Externally assessed content**
- **Eligible for Key Stage 5 performance points from 2018**
- **Designed to meet the DfE technical guidance**

RELATED ACTIVITIES

The Suggested Activities in this Delivery Guide listed below have also been related to other Cambridge Technicals in IT units/Learning Outcomes (LOs). This could help with delivery planning and enable learners to cover multiple parts of units.

This unit (Unit 21)	Title of suggested activity	Other units/LOs	
LO1	Website design I: technical aspects Website design II: aesthetics	Unit 2 Global information	LO1 Understand where information is held globally and how it is transmitted
	What are the security risks that must be considered when creating a website?	Unit 1 Fundamentals of IT	LO5 Understand ethical and operational issues and threats to computer systems
		Unit 2 Global information	LO2 Understand the styles, classification and the management of global information
		Unit 3 Cyber security	LO1 Understand what is meant by cyber security LO2 Understand the issues surrounding cyber security
		Unit 12 Mobile technology	LO3 Be able to determine solutions for the use of mobile technologies
	What mechanisms can be employed to help protect websites?	Unit 1 Fundamentals of IT	LO5 Understand ethical and operational issues and threats to computer systems
		Unit 2 Global information	LO2 Understand the styles, classification and the management of global information
		Unit 3 Cyber security	LO3 Understand measures used to protect against cyber security incidents
	Existing websites' use of security measures	Unit 2 Global information	LO2 Understand the styles, classification and the management of global information LO3 Understand the use of global information and the benefits to individuals and organisations
		Unit 3 Cyber security	LO3 Understand measures used to protect against cyber security incidents
LO2	Design preparation – interviewing the client	Unit 1 Fundamentals of IT	LO4 Understand employability and communication skills used in an IT environment
	Producing a client proposal	Unit 8 Project management	LO2 Be able to initiate and plan projects
	Producing the page plans and site map for the client	Unit 2 Global information	LO4 Understand the legal and regulatory framework governing the storage and use of global information LO6 Understand the principles of information security
		Unit 9 Product development	LO2 Be able to design products that meet identified client requirements
	Incorporating interactive and responsive elements into the design	Unit 2 Global information	LO4 Understand the legal and regulatory framework governing the storage and use of global information LO6 Understand the principles of information security
		Unit 9 Product development	LO2 Be able to design products that meet identified client requirements
		Unit 12 Mobile technology	LO1 Understand mobile technologies
LO3	Implement responsive design to the website using CSS	Unit 12 Mobile technology	LO1 Understand mobile technologies
	Test the prototype website	Unit 9 Product development	LO3 Be able to implement and test products LO4 Be able to carry out acceptance testing with clients
	Evaluate the prototype website against original requirements	Unit 8 Project management	LO4 Be able to carry out project evaluations

This unit (Unit 21)	Title of suggested activity	Other units/LOs	
LO4	Plan a presentation to best demonstrate prototype website features Create a presentation to demonstrate the prototype website to the client	Unit 1 Fundamentals of IT	LO4 Understand employability and communication skills used in an IT environment
	Deliver a presentation demonstrating the prototype website to the client	Unit 1 Fundamentals of IT	LO4 Understand employability and communication skills used in an IT environment
		Unit 8 Project management	LO3 Be able to execute projects
	Propose future site maintenance options – updating content/content management systems	Unit 8 Project management	LO3 Be able to execute projects
		Unit 13 Social media and digital marketing	LO4 Be able to develop social media digital marketing campaigns
	Propose future site maintenance options – search engine optimisation	Unit 8 Project management	LO3 Be able to execute projects
	Propose future site maintenance options – threats and solutions to information security	Unit 1 Fundamentals of IT	LO5 Understand ethical and operational issues and threats to computer systems
		Unit 2 Global information	LO2 Understand the styles, classification and the management of global information
		Unit 3 Cyber security	LO1 Understand what is meant by cyber security LO2 Understand the issues surrounding cyber security LO3 Understand measures used to protect against cyber security incidents
		Unit 8 Project management	LO3 Be able to execute projects
		Unit 12 Mobile technology	LO3 Be able to determine solutions for the use of mobile technologies

KEY TERMS

Explanations of the key terms used within this unit, in the context of this unit	
Key term	**Explanation**
Browser	A software application used to locate, retrieve and display content on the World Wide Web, including web pages, images, video and other multimedia. Examples include Opera, Microsoft Explorer, Google Chrome.
Content management	The administration of digital content, which may include multimedia such as images, video and audio, as well as text.
CSS	Abbreviation for cascading style sheets; a style sheet language used for describing the presentation of a document written in a markup language.
Domain name	A website address that can be used to locate a set of HTML pages, such as www.ocr.org.uk.
Hosting	A service where the web host maintains clients' sites on its computers, and provides related services such as server space leasing, backup and security, email boxes, financial transactions and internet connection.
HTML	A set of mark up symbols or codes, which gives instructions to a browser on how to display a web page's content.
Hyperlink	A link in a hypertext document that allows the user to move to another location, either in the same or a different document.
Interception of data	Can be used by regulatory agencies and intelligence services; known as lawful interception of data, usually for the purpose of site traffic analysis (in website context).
Navigation bar	A set of buttons or images, allowing the user to traverse the different pages on a website. Can also be in the form of one image with an image map.
PHP	An acronym for 'PHP: Hypertext Preprocessor'. A server-side scripting language, originally intended for web development, and which is also used as a general-purpose programming language. It is used to power sites such as Facebook.
Prototype	A website prototype can be any mock-up or demo of what the actual website will look like before it goes live. It can consist of anything from page plans, to a fully functioning prototype website with populated pages made in HTML.
Rendering	A web browser renders marked up content such as HTML and formatting information, such as cascading style sheets (CSS).
Responsive design	Responsive design makes use of flexible layouts, images and CSS. The aim is to construct web pages capable of detecting device screen size and orientation, which then change the layout accordingly.
Search engine	One of a number of programs that search documents for specific keywords, returning a list of web pages where the keywords were located.
SEO	Search engine optimisation is the name given to activities attempting to improve the website rankings in a search engine.
Site map	A hierarchical model of the structure of a website, which starts with the home page at the top.
SQL	Structured Query Language is a programming language designed for managing data held in database management systems.
SQL injection	An attack on a website where the attacker carries out unauthorised SQL commands by taking advantage of insecure code, bypassing the firewall.
User interactivity	The dialogue occurring between the user and a computer program.
World Wide Web Consortium	An international community where member organisations and the public work together to develop web standards. Its mission is to maximise the potential of the web.
WYSIWYG	Acronym for 'What You See Is What You Get'. A WYSIWYG editing program compares with others requiring the designer to enter coding not permitting an immediate method of seeing a browser's rending of the web page.

MISCONCEPTIONS

Some common misconceptions and guidance on how they could be overcome		
What is the misconception?	**How can this be overcome?**	**Resources which could help**
The difference between responsive web design and mobile web design	Learners may not know the difference between responsive web design and mobile web design, where the latter is directed towards designing sites exclusively for mobile devices. Tutors could show a video or direct learners to carry out research on the two different concepts. In groups, they could produce a mind map, showing the differences between the two.	Organisation: Softpedia Resource Title: Misconceptions About Responsive Web Design Website Link: http://news.softpedia.com/news/Misconceptions-About-Responsive-Web-Design-483639.shtml Organisation: AuroIN Videos Resource Title: Difference Between Mobile Website and Responsive Web Design Website Link: https://www.youtube.com/watch?v=9PFYzFmHNiQ
The difference between mobile app design and mobile/responsive site design	Learners may not know the difference between design of mobile apps and mobile or responsive website design. Tutors could introduce the two types of design during a group discussion to ascertain what learners already know, then reinforce by showing a video or by asking learners to produce a short presentation to the group on their findings.	Organisation: Web Designer (contributor: Ryan Boudreaux) Resource Title: Responsive web design vs. mobile app development Website Link: http://www.techrepublic.com/blog/web-designer/responsive-web-design-vs-mobile-app-development/ Organisation: Top Edge Marketing Resource Title: Mobile Websites v Mobile Apps Website Link: https://www.youtube.com/watch?v=oSFQSjk-drQ
Understanding the need for website test strategies	There is a common misconception that if a website has an excellent design, and all hyperlinks appear to work, then it should not need thorough user testing. Learners could brainstorm individually all the possible errors that an actual user could encounter, from browser rendering to e-commerce problems, then present their findings to the group.	Organisation: Testing Web Sites Resource Title: Why Test Web Sites? Website Link: http://www.testing-web-sites.co.uk/testing-basics/why-test-web-sites/

SUGGESTED ACTIVITIES

LO No:	1
LO Title:	**Understand the fundamentals of web design**

Title of suggested activity	Suggested activities	Suggested timings	Also related to
Website design I: technical aspects	Tutors could begin the unit by introducing learners to the technical components of website design. After a lesson starter where learners produce HTML code for two basic hyperlinked web pages, learners could produce in groups a presentation which considers domain name registration (and associated packages e.g. shopping carts, email accounts, server space); the purpose of a site map; the importance of a navigation bar; page layout/design; and content management planning.	2 hours	Unit 2 LO1
	Learners could complete an activity which considers the costs (budget) of producing a website, including domain name, server space and software, together with the costs of employing a commercial designer and subsequent updates/content management.		
	Organisation: W3Schools Resource Title: HTML Introduction Website Link: http://www.w3schools.com/html/html_intro.asp		
	Organisation: Joe Dracup Resource Title: How to Build a Website #1 - Introduction to HTML - Basics and beginnings Website Link: https://www.youtube.com/watch?v=jVMKUyBXiiY		
	Organisation: Patrick J. Lynch and Sarah Horton Resource Title: Page Structure and Site Design Website Link: http://webstyleguide.com/wsg3/6-page-structure/3-site-design.html		
	Organisation: Expert Market Resource Title: How Much Does a Website Cost in 2016? Website Link: http://webdesign.expertmarket.co.uk/how-much-does-website-cost		

Title of suggested activity	Suggested activities	Suggested timings	Also related to
Website design II: aesthetics	Tutors could introduce learners to the second aspect of design – website aesthetics. In a lesson starter exercise, learners could be asked to evaluate two or more websites considered to be good and bad websites, from both aesthetic and ease of navigation viewpoints, recording their findings in a website evaluation form, with their conclusions in a report. Organisation: University of Reading Resource Title: Evaluating Websites Guide Website Link: https://www.reading.ac.uk/library/finding-info/guides/lib-evaluating-websites.aspx Organisation: University of the West of England Resource Title: Guide for evaluating Internet resources Website Link: http://www.uwe.ac.uk/library/resources/general/internet/eval.htm Organisation: AngelFire Resource Title: The World's Worst Website Website Link: http://www.angelfire.com/super/badwebs/ Organisation: Branded3 Resource Title: Top 10 worst websites you'll wish you hadn't seen Website Link: https://www.branded3.com/blog/top-10-worst-websites/ Organisation: DailyTekk Resource Title: The 100 best, most-interesting websites of 2016 Website Link: http://dailytekk.com/2016/01/05/the-100-best-most-interesting-websites-of-2016/ Organisation: WebdesignerDepot (Contributor: Ezequiel Bruni) Resource Title: The best new portfolio sites, January 2016 Website Link: http://www.webdesignerdepot.com/2016/01/the-best-new-portfolio-sites-january-2016/	2 hours	Unit 2 LO1

Title of suggested activity	Suggested activities	Suggested timings	Also related to
How do browsers and devices affect website rendering?	Learners could research the history and work of the World Wide Web Consortium in developing international web standards, as well as one of its goals of 'championing responsive web standards'. Learners could then make a presentation that considers how the various different browsers, and various internet devices (smartphone, tablet, laptop, interactive TV, games console) can affect how websites are displayed, including research into the various browser engines. The latest trends in responsive design, using HTML and CSS to resize, hide, or move content to optimise it for on any screen, could then be researched. Organisation: W3C Resource Title: About W3C Website Link: https://www.w3.org/Consortium/ Organisation: HTML5 Rocks, a Google Project Resource Title: How Browsers Work: Behind the scenes of modern web browsers Website Link: http://www.html5rocks.com/en/tutorials/internals/howbrowserswork/ Organisation: W3Schools Resource Title: HTML Responsive Web Design Website Link: http://www.w3schools.com/html/html_responsive.asp	2 hours	

Title of suggested activity	Suggested activities	Suggested timings	Also related to
Promoting user interactivity	Tutors could emphasise to learners the importance of including interactivity in a website to enhance the user's experience. Learners could contribute to a group presentation that examines the different methods of interactivity and the tools used to deploy them. Organisation: Business 2 Community Resource Title: How Important is Website Interactivity? Website Link: http://www.business2community.com/online-marketing/how-important-is-website-interactivity-01248595#4LvSgKVsppXJMvdC.97 Organisation: Smashing Magazine (Contributor: David Bushell) Resource Title: Bringing Interactivity To Your Website With Web Standards Website Link: https://www.smashingmagazine.com/2011/02/bringing-interactivity-to-your-website-with-web-standards/ Organisation: Line25 Resource Title: 25 Interactive HTML Websites That Look Like Flash Website Link: http://line25.com/articles/25-interactive-html-websites-that-look-like-flash Learners could research the concept of interfacing web pages with databases: for instance retail sites with current products and price lists, online banking with account balance information. Organisation: Holowczak Resource Title: Connecting web sites to Database Systems Website Link: http://holowczak.com/web-database-integration/	2 hours	
What are the security risks that must be considered when creating a website?	Learners could research examples of case histories in the media for security risks associated with websites, including hacking, viruses and identity theft, both online and printed, presenting their findings to the rest of their group. Organisation: Information is Beautiful Resource Title: World's Biggest Data Breaches Website Link: http://www.informationisbeautiful.net/visualizations/worlds-biggest-data-breaches-hacks/ Organisation: Techworld Resource Title: The UK's 11 most infamous data breaches 2015 Website Link: http://www.techworld.com/security/uks-11-most-infamous-data-breaches-2015-3604586/	1 hour	Unit 1 LO5 Unit 2 LO2 Unit 3 LO1, LO2 Unit 12 LO3

Title of suggested activity	Suggested activities	Suggested timings	Also related to
What mechanisms can be employed to help protect websites?	Tutors could introduce learners to the security mechanisms that can be used to help protect websites. Group-based exercises and case studies can be used to identify potential risks and security measures. Organisation: University of California Santa Cruz Resource Title: Security Breach Examples and Practices to Avoid Them Website Link: http://its.ucsc.edu/security/breaches.html Organisation: TechRepublic Resource Title: Ensure basic Web site security with this checklist Website Link: http://www.techrepublic.com/blog/it-security/ensure-basic-web-site-security-with-this-checklist/		Unit 1 LO5 Unit 2 LO2 Unit 3 LO3
Existing websites' use of security measures	Learners could evaluate existing websites for the security measures that they are using, for instance e-commerce sites, online banking. They could produce a report documenting the results of their researching, including screenshots and links. Organisation: Lloyds Bank Resource Title: Online security Website Link: http://www.lloydsbank.com/security.asp	2 hours	Unit 2 LO2, LO3 Unit 3 LO3

SUGGESTED ACTIVITIES

LO No:	2		
LO Title:	**Be able to plan the development of an interactive website for an identified client**		
Title of suggested activity	**Suggested activities**	**Suggested timings**	**Also related to**
Design preparation – interviewing the client	Tutors could introduce the learning objective by emphasising to the learners the importance of carrying out a planned interview with a prospective client, in order to match the client's needs with comprehensive planning documentation. Learners could video an interview with a client, possibly as part of any planned work experience, considering the purpose and target audience for the site, required user interactivity and responsive design requirements, likely platforms used by users and planning for content management (using sample content provided by the client). Alternatively, the interview could be carried out via email or teleconferencing with the client. If it is not possible to use an external client, consider using another tutor/teacher in the centre to supply the brief. Any interaction with employers can be recorded in the Meaningful Employer Involvement plan. Organisation: WebdesignerDepot Resource Title: What to Ask a Client Before You Start Their Project Website Link: http://www.webdesignerdepot.com/2011/01/what-to-ask-a-client-before-you-start-their-project/ Organisation: Envato (Contributor: Celine Roque) Resource Title: Freelance Consultant's Guide to Client Interviews (Questions + Process) Website Link: http://business.tutsplus.com/tutorials/freelance-consultants-guide-to-client-interviews-questions-process--cms-25135 Organisation: The Ideas Foundation Resource Title: Resources: Student Website Link: http://iamcreative.org.uk/resources/student/	2 hours	Unit 1 LO4

Title of suggested activity	Suggested activities	Suggested timings	Also related to
Producing a client proposal	Linking with the above activity, learners could prepare a client proposal in a word processed report, in response to the client's needs that they have ascertained, including details of planning content management and costings (also linking back to their findings in the Website design I: technical aspects activity in Learning Outcome 1). Organisation: JUST Creative (Contributor: Mike Hanski) Resource Title: How to Write a Winning Web Design Proposal Website Link: http://justcreative.com/2014/09/01/how-to-write-a-winning-web-design-proposal/ Organisation: Speckyboy Design Magazine (Contributor: Nathan Powell) Resource Title: Guidelines to Writing an Effective Web Design Proposal Website Link: https://speckyboy.com/2015/07/13/guidelines-to-writing-an-effective-web-design-proposal/	2 hours	Unit 8 LO2
Producing the page plans and site map for the client	Linking to the Design preparation – interviewing the client activity above, learners could produce annotated page plans of consistent style for their prototype website, using word processing software, or they could hand draw them, together with a site map showing how the pages hyperlink together. The latter could be constructed using web planning software, such as: Organisation: Codrops (Contributor: Steven White) Resource Title: Planning Your Web Design with Sketches Website Link: http://tympanus.net/codrops/2013/01/29/planning-your-web-design-with-sketches/ Organisation: Smashing Magazine (Contributor: Ben Seigel) Resource Title: A Comprehensive Website Planning Guide Website Link: https://www.smashingmagazine.com/2011/06/a-comprehensive-website-planning-guide/ Organisation: Awmous LLC Resource Title: Website planning tool suite Website Link: https://slickplan.com/ Learners could then collect assets for their website, making use of the sample content provided by the client, taking into account copyright and other legislation. The assets could be listed in a table which details the legal aspects that need to be considered.	2 hours	Unit 2 LO4, LO6 Unit 9 LO2

Title of suggested activity	Suggested activities	Suggested timings	Also related to
Incorporating interactive and responsive elements into the design	Linking to the activity above and the Promoting user interactivity activity in Learning Outcome 1, learners could either further annotate their page plans to show where interactive and responsive design elements to be incorporated are matched to the client's needs, or produce a separate word processed report or presentation. Interactive elements could include: a twitter or other social media feed; embedded map or weather forecast using existing code widely available; JavaScript coding to perform a function such as swapping images or button facilities; a database interface element (such as logging in, storing data); and CSS (e.g. to facilitate responsive design).	2 hours	Unit 2 LO4, LO6 Unit 9 LO2 Unit 12 LO1
Produce a corporate house style document	Learners could prepare an additional style document to match the corporate identity of the client, including details for font colours and styles, logo use, etc, or explain how the client's existing corporate style has been met. Organisation: Ofsted/UK Government Resource Title: Guide to Ofsted's house style Website Link: https://www.gov.uk/government/publications/guide-to-ofsteds-house-style Organisation: University of Twente Resource Title: House Style and Downloads Website Link: https://www.utwente.nl/en/organization/facts-and-figures/house-style-downloads/	1 hour	
Justifying the design elements meeting the client's requirements	Learners could video a presentation to their group, where they compare and match their proposal, site map and page plans showing the interactive and responsive design elements to the needs voiced by their client in the Design preparation – interviewing the client activity above. This activity could be further strengthened by communicating these documents to the client, following industry practice, and gaining initial feedback from the client before commencing prototype creation. Organisation: JUST Creative Resource Title: 9 Of The Best Ways To Present A Website To A Client Website Link: http://justcreative.com/2008/08/25/what-is-the-best-way-to-present-a-website-to-a-client/	2 hours	

SUGGESTED ACTIVITIES

LO No:	3
LO Title:	**Be able to create prototype websites for an identified client**

Title of suggested activity	Suggested activities	Suggested timings	Also related to
Create a prototype website for the client	Linking to the activities in Learning Outcome 2, learners could use website design software such as Dreamweaver, WebPlus, other WYSIWYG programs, or HTML/CSS coding, to produce several hyperlinked web pages to match the previous designs. Sample content such as text, images, audio and video previously provided by the client could be used to populate the pages. The website could be hosted, or viewed locally offline. Organisation: Adobe Resource Title: Dreamweaver CC tutorials from novice to expert Website Link: https://helpx.adobe.com/uk/dreamweaver/tutorials.html Organisation: Adobe Resource Title: Classroom in a Book: Dreamweaver CC (printed or Kindle editions) Website Link: https://www.amazon.co.uk/Adobe-Dreamweaver-Classroom-Book-release-ebook/dp/B00R33VZVA/ref=dp_ob_title_def Organisation: Serif Resource Title: Serif software tutorials Website Link: www.serif.com Organisation: KillerSites Resource Title: The easiest web design tutorial on the web Website Link: http://www.how-to-build-websites.com/ Organisation: Hostinger UK Resource Title: Free hosting resources Website Link: http://www.hostinger.co.uk/free-hosting Organisation: The Ideas Foundation Resource Title: Resources: Student Website Link: http://iamcreative.org.uk/resources/student	12 hours	

Title of suggested activity	Suggested activities	Suggested timings	Also related to
Add interactive components to the prototype using existing scripts	Linking to the Incorporating interactive and responsive elements into the design activity in Learning Outcome 2, learners could incorporate the planned interactive elements into the pages just created in the activity above, using existing code available on the internet. A website development employer could teach the learners the technical elements of this unit, for example JavaScript or SQL/PHP programming. Any interaction with employers can be recorded in the Meaningful Employer Involvement plan Organisation: HTML Goodies Resource Title: How To Add Social Networking Buttons To Your Site Website Link: http://www.htmlgoodies.com/beyond/webmaster/how-to-add-social-networking-buttons-on-your-site.html Organisation: Twitter, Inc. Resource Title: How to embed a timeline Website Link: https://support.twitter.com/articles/20170071 Organisation: Google Resource Title: Embed a map or share a location Website Link: https://support.google.com/maps/answer/144361?co=GENIE.Platform%3DDesktop&hl=en Organisation: WeatherCast Resource Title: A weather widget for your website Website Link: http://www.weathercast.co.uk/services/website-weather-widget.html Organisation: W3Schools Resource Title: JavaScript Tutorial Website Link: http://www.w3schools.com/js/	2 hours	

Title of suggested activity	Suggested activities	Suggested timings	Also related to
Add a database interface, in line with the client's requirements	Linking back to the Incorporating interactive and responsive elements into the design activity in Learning Outcome 2, learners could produce coding to create an interface with a database (to retrieve/store information such as user names and passwords). A website development employer could teach the learners the technical elements of this Unit, for example JavaScript or SQL/PHP programming. Any interaction with employers can be recorded in the Meaningful Employer Involvement plan. Organisation: W3Schools Resource Title: PHP MySQL Database Website Link: http://www.w3schools.com/php/php_mysql_intro.asp	5 hours	
Implement responsive design to the website using CSS	Linking to the Incorporating interactive and responsive elements into the design activity in Learning Outcome 2, learners could use CSS to introduce responsive design to the prototype website, in line with the client's requirements. Alternatively, responsive design could be incorporated earlier in the Create a prototype website for the client activity above. A website development employer could teach the learners the technical elements of this unit, for example CSS. Any interaction with employers can be recorded in the Meaningful Employer Involvement plan. Organisation: W3Schools Resource Title: Responsive Web Design - Introduction Website Link: http://www.w3schools.com/css/css_rwd_intro.asp Organisation: Coursesa Resource Title: The Ultimate Responsive Web Design Tutorials for Beginners Website Link: https://www.youtube.com/watch?v=YBK_1WrM294 Organisation: Treehouse Island, Inc. Resource Title: The 2014 Guide to Responsive Web Design Website Link: http://blog.teamtreehouse.com/modern-field-guide-responsive-web-design Organisation: Adobe Resource Title: Classroom in a Book: Dreamweaver CC (printed or Kindle editions) Website Link: https://www.amazon.co.uk/Adobe-Dreamweaver-Classroom-Book-release-ebook/dp/B00R33VZVA/ref=dp_ob_title_def Organisation: Smashing Magazine (Contributor: Matt Stow) Resource Title: Responsively Retrofitting an Existing Site with RWD Retrofit Website Link: https://www.smashingmagazine.com/2013/03/retrofit-a-website-to-be-responsive-with-rwd-retrofit/	5 hours	Unit 12 LO1

Title of suggested activity	Suggested activities	Suggested timings	Also related to
Test the prototype website	The tutor could demonstrate to the group effective methods for testing. Learners could produce a test plan/table, with columns headed: test number, item to be tested, expected outcome, actual outcome and improvements (if required). Testing could then be carried out on the completed prototype website, including hyperlinks, interactive elements and responsive design on multiple browsers (e.g. Google Chrome, Opera, Firefox, Microsoft Edge, Safari, etc) and multiple platforms where possible (e.g. PC/Mac, tablets, smartphones, laptops, interactive TV, etc). In groups, learners could also ask their peers to test their website for appropriate content and original requirements, as well as functionality, using questionnaires that introduce the purpose and target audience for the site. Organisation: Testing Web Sites Resource Title: Website Testing Info & Tools For Everyone From Beginners To Testing Pros Website Link: http://www.testing-web-sites.co.uk/ Organisation: SitePoint Pty. Ltd. Resource Title: The Ultimate Testing Checklist Website Link: http://www.sitepoint.com/ultimate-testing-checklist/ Organisation: Software Testing Help Resource Title: Web Testing: A complete guide about testing web applications Website Link: http://www.softwaretestinghelp.com/web-application-testing/ Organisation: Smashing Magazine (Contributor: Lawrence Howlett) Resource Title: How To Create Your Own Front-End Website Testing Plan Website Link: https://www.smashingmagazine.com/2014/11/how-to-create-your-own-front-end-website-testing-plan/	3 hours	Unit 9 LO3, LO4
Evaluate the prototype website against original requirements	Learners could create a written report, presentation to the group or video of the results of the evaluation of their completed prototype against the client's requirements documented in Learning Outcome 2. Their evaluation could compare with their original proposal, covering purpose and target audience, content required, interactivity and responsive design described in the planning documentation derived from the client's needs for timelines, budget constraints and justification. Improvements, rather than just fixing broken hyperlinks, could be described with regard to their enhancement of the design, navigation or functionality of the website. Organisation: Search Engine Journal Resource Title: 50 Questions to Evaluate the Quality of Your Website Website Link: https://www.searchenginejournal.com/50-questions-to-evaluate-the-quality-of-your-website/	2 hours	Unit 8 LO4

SUGGESTED ACTIVITIES

LO No:	4		
LO Title:	Be able to present the interactive website concept to an identified client		
Title of suggested activity	**Suggested activities**	**Suggested timings**	**Also related to**
Plan a presentation to best demonstrate prototype website features	Tutors could work with learners to develop their confidence and presentation skills when pitching their prototype website to the client. Learners could understand the planning that is required for this type of presentation. Tutors could introduce the various methods, or a combination thereof, to present the prototype website to the client interviewed in the Design preparation – interviewing the client activity in Learning Outcome 2. These could include a visit to the client's office demonstrating the website either hosted or saved locally on a range of media to demonstrate the responsive design, using videoconferencing, or sending a link to the client for the hosted website. Learners could then outline in a report the advantages and limitations of those methods, justifying their final choice. Organisation: University of Leicester Resource Title: Planning an effective presentation Website Link: http://www2.le.ac.uk/offices/ld/resources/presentations/planning-presentation Organisation: Mind Tools Ltd. Resource Title: The Presentation Planning Checklist Website Link: https://www.mindtools.com/CommSkll/PresentationPlanningChecklist.htm Organisation: WordStream Resource Title: 20 Ways to Improve Your Presentation Skills Website Link: http://www.wordstream.com/blog/ws/2014/11/19/how-to-improve-presentation-skills	1 hour	Unit 1 LO4

Title of suggested activity	Suggested activities	Suggested timings	Also related to
Create a presentation to demonstrate the prototype website to the client	Learners could use presentation software with speaker's notes to enable them to demonstrate the effectiveness of their website solution (linked to the HTML files either saved locally or hosted) to the client. The presentation could open with a comparison and justification of the design choices with the original requirements set out by the client, followed by demonstrations of functionality, interactivity and responsive design discussed during the original interview in the Design preparation – interviewing the client activity in Learning Outcome 2. Organisation: How-To Geek, LLC Resource Title: How To Add Live Web Pages to a PowerPoint Presentation Website Link: http://www.howtogeek.com/howto/25946/how-to-add-live-web-pages-to-a-powerpoint-presentation/ Organisation: Speaking Practically Resource Title: Need to Show a Website While You Present? Two Quick Tricks Using PowerPoint Website Link: http://speakingpractically.com/2015/06/01/need-to-show-a-website-while-you-present-two-quick-tricks-using-powerpoint/	2 hours	Unit 1 LO4
Deliver a presentation demonstrating the prototype website to the client	Learners could use the choice of presentation method justified in the Plan a presentation to best demonstrate prototype website features activity above, to present the prototype website to the client, using a video recording of the event and feedback forms completed following the presentation as evidence. Organisation: Talkbusiness Magazine Resource Title: Tips For Recording A Business Meeting Website Link: http://talkbusinessmagazine.co.uk/2014/09/01/tips-recording-business-meeting/ Organisation: Newman Stewart Resource Title: 5 Tips on How to Record a Successful Video Interview Website Link: http://theundercoverrecruiter.com/successful-video-interview/	1 hour	Unit 1 LO4 Unit 8 LO3

Title of suggested activity	Suggested activities	Suggested timings	Also related to
Propose future site maintenance options – updating content/content management systems	Learners could add an additional section to the presentation created in the Create a presentation to demonstrate the prototype website to the client activity above, or produce a report, explaining to the client the importance of future website content management and adequate staff training to keep the new website up-to-date. This could either be carried out in conjunction with the designer on a regular basis, or after the handover to the client, whose staff will also need to have training/experience in HTML/website design/website content copywriting. Organisation: SEO SiteCheckup Resource Title: 5 Reasons Why Fresh Content is Critical for Your Website and SEO Website Link: http://seositecheckup.com/articles/5-reasons-why-fresh-content-is-critical-for-your-website-and-seo Organisation: Web Marketing For Dummies, 3rd Edition Resource Title: Business Website Content Updating Choices Website Link: http://www.dummies.com/how-to/content/business-website-content-updating-choices.html# Organisation: Content Marketing Institute Resource Title: Web Content Strategy Website Link: http://www.slideshare.net/juntajoe/web-content-strategy-how-to-plan-for-and-publishing-online-content-for-maximum-roi/22-TYPICAL_WEB_PROJECT_SCHEDULE Learners could also consider how the prototype website could link with the client's social media and other marketing strategies.	2 hours	Unit 8 LO3 Unit 13 LO4
Propose future site maintenance options – search engine optimisation	Tutors could introduce the concept of SEO (search engine optimisation), showing case studies of how SEO has ranked sites and improved the businesses of companies worldwide. Learners could then add another section to the presentation created in the Create a presentation to demonstrate the prototype website to the client activity above, with detailed speaker's notes, or produce an additional report. Organisation: Red Evolution Resource Title: WHAT IS SEO? It's Simpler Than You Think! Website Link: https://www.redevolution.com/what-is-seo Organisation: The Internet Works (UK) Ltd. Resource Title: Using Analytics to help websites improve their SEO – case studies Website Link: https://www.theinternetworks.co.uk/2015/04/using-analytics-help-websites-improve-seo-case-studies/	1 hour	Unit 8 LO3

Title of suggested activity	Suggested activities	Suggested timings	Also related to
Propose future site maintenance options – threats and solutions to information security	Learners could refer to the research carried out in Learning Outcome 1, presenting possible threats to information security and solutions for protecting personal data and information for the specific prototype website created for the client. Solutions could include scripting, passwords and backing up. Learners could then add another section to the presentation created in the Create a presentation to demonstrate the prototype website to the client activity above, with detailed speaker's notes, or produce an additional report. Organisation: Computer Weekly Resource Title: Building a secure website and maintaining good website design Website Link: http://www.computerweekly.com/tip/Building-a-secure-website-and-maintaining-good-website-design Organisation: Defencely Resource Title: 10 Most Popular Ways Hackers Hack Your Website Website Link: http://defencely.com/blog/10-popular-ways-hackers-hack-website/ Organisation: Small Business Trends LLC Resource Title: 5 Simple Tips to Secure Your Website from Hackers Website Link: http://smallbiztrends.com/2014/12/secure-your-website-from-hackers.html	2 hours	Unit 1 LO5 Unit 2 LO2 Unit 3 LO1, LO2, LO3 Unit 8 LO3 Unit 12 LO3

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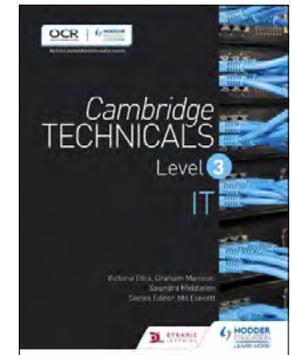
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