OCR
Oxford Cambridge and RSA

Unit Title:	**Web development**
OCR unit number:	32
Unit reference number:	K/601/3256
Level:	3
Credit value:	9
Guided learning hours:	80

Unit aim

The aim of this unit is that learners will:

- Understand web architecture and components
- Understand the technologies that can be used to build and operate a website
- Develop a web-site specification
- Implement elements of a web-site

Learning Outcomes	Assessment Criteria	Knowledge, understanding and skills
The Learner will: 1 Understand web architecture and components	**The Learner can:** 1.1 Describe the hardware and software components which enable the internet and web 1.2 Explain the role of the TCP/IP protocol including IPv6 1.3 Explain the role of internet service providers, web hosting services and domain name registrars 1.4 Describe available types of web functionality including Web 1.0, Web 2.0, blogs, online applications and cloud computing	• the hardware and software components for both the web and the internet depending on client requirements • communications protocols to include both transmission control protocols and internet protocols. Aware of the layers that are in operations and how these layers interrelate and date transmits through these layers. Why IPv6 has become necessary • the role of and the differences between the internet service provider, and the web hosting service. Aware of the domain name registrars including DNs and the relation between Domain Names and IP addresses and how these are controlled

Learning Outcomes	Assessment Criteria	Knowledge, understanding and skills
		• the differences between web 1.0 and 2.0 and what this has meant for the user, the use of online applications and the potential impact of cloud computing on the future of web development and its possible impact on industry in terms of desktop hardware and software
2 Understand the technologies that can be used to build and operate a website	2.1 Explain the use of markup languages 2.2 Explain the use and functionality of: • web runtime environments • web application programming languages 2.3 Explain the role of databases in building websites and web applications 2.4 Identify typical product stack combinations that can be used for web development	• the different markup languages and their use (this could include HTML, XML, XHTML) • web programming languages and how these can be used • the products that make up the stack for web developments e.g. LAMP, LAPP, MAMP • the uses of PHP, SQL and ASP and the way these can be used in the building and enhancement of a website
3 Develop a web-site specification	3.1 Produce a pre-production proposal document for a web-site development project 3.2 Identify the components required to develop a web-site 3.3 Produce an implementation plan for a web-site development	• how to create a proposal for a web-site development including, the components that will be required for its development this could include assets, language, functionality, and code that may be used • how to create an implementation plan to include timescales, constraints and contingency planning
4 Implement elements of a web-site	4.1 Design components of a web-site 4.2 Develop components of a web-site 4.3 Test components of a web-site	• how to design components for a web-site (this could be planned script, storyboard design) • how to create appropriate components using appropriate scripting and design tools • how to create test plans and test the components of their web-site for functionality

Assessment

The qualification has been designed to develop knowledge, understanding and skills in the full range of functions involved in the planning and control, hardware, software and systems installation, software solutions and the production of customer support materials. It also provides opportunities for learners to study towards system and network management, to specialise in one or more specific programming languages in addition to being able to take units that are vendor specific.

Each unit within the specification is designed around the principle that candidates will build a portfolio of evidence relating to progression towards meeting the unit assessment criteria.

The unit assessment criteria reflect the demands of the learning outcomes for each unit.

In order for candidates to be able to effectively progress towards meeting the requirements of each assessment criteria, tutors must make sure that the supporting knowledge, understanding and skills requirements for each criteria are fully addressed. The identified knowledge, understanding and skills are not exhaustive and may be expanded upon or tailored to particular contexts to which the unit is being taught and the assessment criteria applied.

We recommend that teaching and development of subject content and associated skills be referenced to real vocational situations, through the utilisation of appropriate industrial contact, vocationally experienced delivery personnel, and real life case studies.

All the learning outcomes and assessment criteria must be clearly evidenced in the submitted work, which is externally moderated by OCR.

Results will be Pass or Fail.

Guidance on assessment

Candidates do not have to achieve units in any particular order and tutors should tailor learning programmes to meet individual candidate needs. It is recommended that, wherever possible, centres adopt a holistic approach to the delivery of the qualification and identify opportunities to link the units.

Centres are free to deliver this qualification using any mode of delivery that meets the needs of their candidates. Whatever mode of delivery is used, centres must ensure that learners have access to appropriate resources and consider the candidates' complete learning experience when designing learning programmes. This is particularly important in relation to candidates studying part time alongside real work commitments where candidates may bring with them a wealth of experience that should be utilised to maximum effect by tutors and assessors.

It is difficult to give a detailed answer to how much evidence is required as it depends on the type of evidence collected and the judgement of assessors. The main principles, however, are as follows: for a candidate to be judged competent in a unit, the evidence presented must satisfy:

- all the items listed, in the section 'Learning Outcomes'
- all the areas in the section 'Assessment Criteria'

Questioning the candidate is normally an ongoing part of the assessment process, and is necessary to:

- test a candidate's knowledge of facts and procedures
- check if a candidate understands principles and theories *and*
- collect information on the type and purpose of the processes a candidate has gone through
- candidate responses must be recorded

The quality and breadth of evidence provided should determine whether an assessor is confident that a candidate is competent or not. Assessors must be convinced that candidates working on their own can work independently to the required standard.

Additional information

For further information regarding administration for this qualification, please refer to the OCR document '*Admin Guide: Vocational Qualifications'* on the OCR website www.ocr.org.uk .