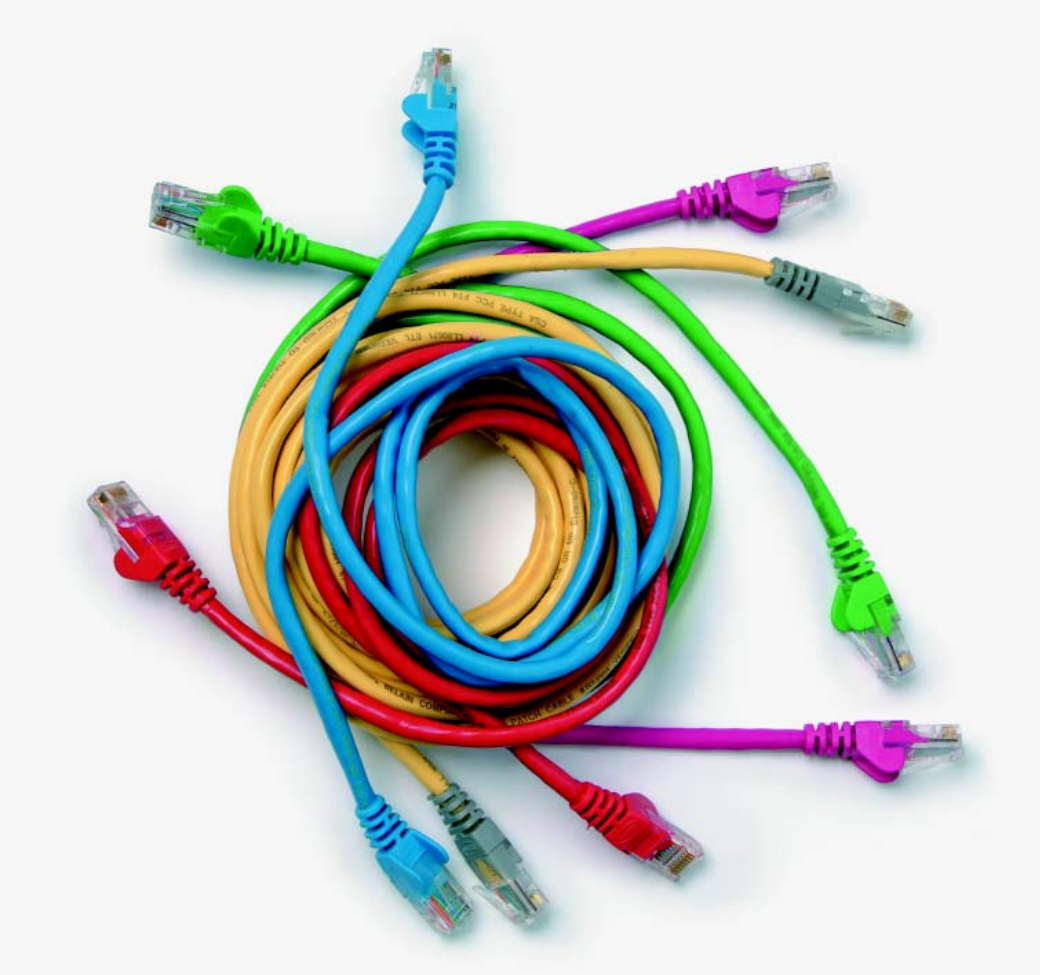
Systems and Principles Unit Syllabus

Level 3 Web development

7540-044

www.cityandguilds.com
January 2011
Version 2.0



About City & Guilds
City & Guilds is the UK's leading provider of vocational qualifications, offering over 500 awards across a wide range of industries, and progressing from entry level to the highest levels of professional achievement. With over 8500 centres in 100 countries, City & Guilds is recognised by employers worldwide for providing qualifications that offer proof of the skills they need to get the job done.

City & Guilds Group
The City & Guilds Group includes City & Guilds, City & Guilds Institute, ILM (the Institute of Leadership & Management) which provides management qualifications, learning materials and membership services, NPTC which offers land-based qualifications and membership services, and HAB (the Hospitality Awarding Body). City & Guilds also manages the Engineering Council Examinations on behalf of the Engineering Council.

Equal opportunities
City & Guilds fully supports the principle of equal opportunities and we are committed to satisfying this principle in all our activities and published material. A copy of our equal opportunities policy statement is available on the City & Guilds website.

Copyright
The content of this document is, unless otherwise indicated, © City & Guilds Limited and may not be copied, reproduced or distributed without prior written consent.

However, approved City & Guilds centres and candidates studying for City & Guilds qualifications may photocopy this document free of charge and/or include a locked PDF version of it on centre intranets on the following conditions:

- centre staff may copy the material only for the purpose of teaching candidates working towards a City & Guilds qualification, or for internal administration purposes
- candidates may copy the material only for their own use when working towards a City & Guilds qualification

The *Standard Copying Conditions* on the City & Guilds website also apply.

Please note: National Occupational Standards are not © City & Guilds Limited. Please check the conditions upon which they may be copied with the relevant Sector Skills Council.

Publications
City & Guilds publications are available on the City & Guilds website or from our Publications Sales department at the address below or by telephoning +44 (0)20 7294 2850 or faxing +44 (0)20 7294 3387.

Every effort has been made to ensure that the information contained in this publication is true and correct at the time of going to press. However, City & Guilds' products and services are subject to continuous development and improvement and the right is reserved to change products and services from time to time. City & Guilds cannot accept liability for loss or damage arising from the use of information in this publication.

City & Guilds
1 Giltspur Street
London EC1A 9DD
T +44 (0)844 543 0000 (Centres)
T +44 (0)844 543 0033 (Learners)
F +44 (0)20 7294 2413
www.cityandguilds.com
learnersupport@cityandguilds.com

Contents

Unit 044 Web development

Syllabus Overview		2
Outcome 1	Understand web architecture and components	3
Outcome 2	Understand the technologies that can be used to built and operate a website	4
Outcome 3	Develop a web-site specification	5
Outcome 4	Implement elements of a web-site	6
Unit record sheet		7

Unit 044 Web development

Syllabus Overview

Unit accreditation number **K/601/3256**

Credit value **10**

Rationale

This unit provides an understanding of web architecture, components and technologies. It also covers the development of a specification for a website and implementation of website elements.

Learning outcomes

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

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

Guided learning hours

It is recommended that **80** 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 3 Diploma in ICT Professional Competence.

Assessment and grading

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

Unit 044 Web development

Outcome 1 Understand web architecture and components

Underpinning knowledge

The learner will be able to

1 describe the hardware and software components which enable the internet and web eg
   a Mail and proxy servers
   b Routers
   c Servers
   d Operating Systems
   e Network interface cards and cabling
   f Wireless access points
   g Browsers
   h Website development software

2 explain the role of the TCP/IP protocol including IPv6

3 explain the role of internet service providers, web hosting services and domain name registrars

4 describe available types of web functionality including
   a Web1.0
   b Web 2.0
   c Blogs
   d Online applications
   e Cloud computing.

Unit 044 Web development

Outcome 2 Understand the technologies that can be used to built and operate a website

Underpinning knowledge

The learner will be able to

1 explain the use of markup languages eg
   a HTML
   b XML

2 explain the use and functionality of: web runtime environments , web application programming languages

3 explain the role of databases in building websites and web applications eg
   a SQL
   b PHP

4 identify typical product stack combinations that can be used for web development.

Unit 044 Web development
Outcome 3 Develop a web-site specification

Practical activities

The learner will be able to

1 produce a pre-production proposal document for a web-site development project, identifying client needs, and user needs development timescales

2 produce an implementation plan for a web-site development.

Underpinning knowledge

The learner will be able to

1 identify the components required to develop a web-site.

Unit 044 Web development
Outcome 4 Implement elements of a web-site

Practical activities

The candidate will be able to

1 design components of a multi page web-site including,
- a Layout of pages
- b Navigation or Story Board
- c Format of content
- d Cascading Style Sheets (CSS)
- e Shopping cart
- f Images
- g Animation

2 develop components of a web-site

3 test components of a web-site including,
- a Functionality testing (user environments)
- b Verifying all Links work as they should
- c Navigation
- d Content
- e Check against user requirements.

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 Understand web architecture and components	☐	
2 Understand the technologies that can be used to built and operate a website	☐	
3 Develop a web-site specification	☐	
4 Implement elements of a web-site	☐	

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

City & Guilds Registration Number .....

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

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

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

Centre Name ..... **Centre Number** .....

Published by City & Guilds
1 Giltspur Street
London
EC1A 9DD
T +44 (0)844 543 0000 (Centres)
T +44 (0)844 543 0033 (Learners)
F +44 (0)20 7294 2400
www.cityandguilds.com

City & Guilds is a company registered in England and Wales (company number 16513878)