



Arrangements for:
Professional Development Award in
Web Technologies: Fundamentals at
SCQF level 7

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Acknowledgement

SQA acknowledges the valuable contribution that Scotland's colleges have made to the development of Higher National qualifications.

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1 Introduction

This is the Arrangement Document for the new Professional Development Award in Web Technologies: Fundamentals at SCQF level 7, which was validated in June 2008. This document includes: background information on the development of the Group Award, its aims, guidance on access, details of the Group Award structure, and guidance on delivery.

2 Rationale for the development of the award

The Professional Development Award (PDA) in Web Technologies: Fundamentals at SCQF level 7 is a new award and it consists of two (1 credit) Units at SCQF level 7.

The Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 is included within the HN Interactive Media which is replacing the current HN Multimedia Computing: Web Development, HN Multimedia Computing and HN Interactive Multimedia Creation.

SQA currently offers a number of professional development awards in Computing and IT and this is one of the first that fall within the interactive media area. This Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 is included within the new HNC Interactive Media framework to enable an HN candidate to gain this additional SQA qualification. The Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 is mapped to CIW (Certified Internet Webmaster) curriculum (current May 2008) which will prepare an HN candidate to the level required to undertake the associated vendor certified examination(s), however, a centre can deliver this in a generic way working outwith vendor mapping. The Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 will also allow a part-time, in-fill or day release candidate to gain a separate SQA qualification studying this subset of the HNC Interactive Media.

Employees looking to enhance their skills and gain a qualification find it difficult to commit to a part-time HNC over a 2 year period in the evening or even longer on a day-release basis. They often want to gain a qualification in a specialist area often found within an HNC. This Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 will offer an opportunity for a candidate to study a small focused course in internet business, website development and network technology and this would also count towards an HNC Interactive Media.

This Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 offers a progression route for articulation for the holders of an award from the National Certificate in Digital Media Computing suite of awards.

This Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 consists of Higher National Units that have been written in as generic a way as possible, thus allowing the centre to select the delivery software, languages and hardware platforms although the content of the Professional Development Award is mapped to CIW (Certified Internet Webmaster) certified curriculum (current May 2008).

3 Aims of the award

3.1 General aims of the award

This Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 has a range of broad aims which are generally applicable to all equivalent Higher National or associated qualifications. The general aims are to:

- ◆ develop the candidate's knowledge and skills such as planning and analysing
- ◆ develop employment skills and enhance candidates' employment prospects, by offering the opportunity to develop skills in industry standard software
- ◆ enable progression within the Scottish Credit and Qualifications Framework
- ◆ develop study and research skills
- ◆ develop the transferable skill of problem solving
- ◆ provide academic stimulus and challenge, and foster an enjoyment of the subject

3.2 Specific aims of the award

The specific aims of this Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 are to:

- ◆ prepare a candidate for entry-level employment in range of sectors that use the internet and the web as a fundamental part of their business
- ◆ equip a candidate with the fundamental knowledge and skills required to work in an internet technology-enabled environment
- ◆ develop a range of standardised, specialist web development and network administration skills
- ◆ develop fundamental knowledge of current technologies and processes involved in producing websites
- ◆ develop fundamental knowledge of current technologies and processes involved in the operation of networks and the internet
- ◆ prepare a candidate for the CIW Foundations exam
- ◆ prepare a candidate for progression to further study in the interactive media, multimedia, web development or a related area

3.3 Target groups

The Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 is designed to offer academic, technical and professional training leading to the knowledge and skills necessary in internet business, website development and network technology. This award is targeted at candidates who satisfy the entry requirement and who are:

- ◆ employed or unemployed and wish to study on a part-time (day or evening) or day release mode
- ◆ already studying HNC Interactive Media and wish to gain additional specialised qualifications
- ◆ already studying HNC Interactive Media and wish to prepare for the relevant CIW certified examination(s)
- ◆ unemployed and wish to study to assist them in gaining employment
- ◆ employed and wish to further their career options
- ◆ generally interested in website development

Where an employee needs to update their skills, or possibly undertake CPD (Continual Professional Development) for their occupation, then this Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 is a perfectly suited qualification for this target sector. It is also possible that a centre could deliver this Professional Development Award as evening or part-time provision.

3.4 Employment opportunities

This award will interest a wide range of individuals who wish to pursue or working in a career in the following areas:

- ◆ Web Development and Administration
- ◆ Network Design and Administration
- ◆ Database Development and Administration
- ◆ Technical Writing
- ◆ Programming and Software Engineering
- ◆ Management — Advertising, Customer Services, Accounts, Marketing
- ◆ Business Development
- ◆ e-commerce Development

4 Access to awards

As with all SQA qualifications, access will be at the discretion of the Centre and the following recommendations are for guidance only:

- ◆ different combinations of relevant National Certificate, National Qualifications, Vocational Qualifications and equivalent qualifications from other awarding bodies may also be acceptable, as would suitable vendor qualifications at an appropriate level
- ◆ mature candidates with suitable work experience may be accepted for entry provided the enrolling Centre believes that the candidate is likely to benefit from undertaking the award
- ◆ it would be advisable for all candidates to have some prior knowledge of computing or information technology although formal qualifications may not be necessary if suitable experience had been gained informally or through work experience
- ◆ such work experience may provide inferred or actual evidence of a candidate's skills and knowledge as they apply either to particular Units

5 Award structure

All Units are mandatory within the Professional Development Award in Web Technologies: Fundamentals at SCQF level 7.

5.1 Framework

Unit title	Code	SCQF credit points	SCQF level	SQA credit value
Website Development Fundamentals	F203 34	8	7	1
Internet and Network Technology Fundamentals	F204 34	8	7	1

5.2 Mapping information

A mapping exercise was carried out between the Units within the HNC Interactive Media and SkillSet's NOS during the validation process. This mapping can be found in Appendix 1 (National Occupational Standards Mapping).

5.3 Articulation, professional recognition and credit transfer

There are opportunities to articulate to other Profession Development Awards which are contained within the HN Interactive Media award.

There are also opportunities to use the Units gained in this award to continue study of the HNC Interactive Media at SCQF level 7.

There is no professional recognition mapped to this award apart from the opportunity to undertake the CIW (Certified Internet Webmaster) vendor syllabus (current May 2008).

There is no credit transfer mapping to these Units as these are new and previous Units didn't exist in this area.

6 Approaches to delivery and assessment

This Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 has been designed in conjunction with the development of the new HNC Interactive Media. Within the interactive media field, there are various specialised subject areas, one of which is web development and associate technologies. This Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 has been derived from Units within the HNC Interactive Media framework. In turn, this Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 may be delivered as part of the HNC Interactive Media, or it could be delivered as an individual Professional Development Award qualification.

There is no recommendation for the sequencing of these Units, however, it is recommended that the HN Unit F203 34 *Website Development Fundamentals* should be delivered first, followed by the HN Unit F204 34 *Internet and Network Technology Fundamentals*.

The HN Unit F203 34 *Website Development Fundamentals* is designed to introduce a candidate to gain the knowledge and skills of website development using Extensible Hypertext Markup Language (XHTML) (or a similar markup language). A candidate will be introduced to insert images, create hyperlinks, and add tables and forms to webpages. Other topics introduced will include validating XHTML code, the use of Cascading Style Sheets (CSS) and website publishing.

The HN Unit F204 34 *Internet and Network Technology Fundamentals* is designed to introduce a candidate to gain the knowledge and skills of services, theoretical concepts and principles of internet technologies. A candidate will be introduced to the configuration and the effective use of popular web client applications (eg browsers, e-mail clients, etc.) in the context of internet protocols and networking concepts. Other topics include introduction to internet addressing and common internetworking server types.

Although these Units have been developed to map to the CIW (Certified Internet Webmaster) curriculum (current May 2008) conditions will vary between centres in terms of staff and software and/or hardware resources, the Units have been written in a generic way which means that the delivery does not require particular hardware or software.

All the Units within the Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 are mandatory.

NOTE: Completion of the Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 does NOT guarantee any automatic certification from CIW.

7 General information for centres

Candidates with disabilities and/or additional support needs

The additional support needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments, or considering alternative Outcomes for Units. Further advice can be found in the SQA document *Guidance on Assessment Arrangements for Candidates with Disabilities and/or Additional Support Needs* (www.sqa.org.uk).

Internal and external verification

All instruments of assessment used within this/these Group Award(s) should be internally verified, using the appropriate policy within the centre and the guidelines set by SQA.

External verification will be carried out by SQA to ensure that internal assessment is within the national guidelines for these qualifications.

Further information on internal and external verification can be found in *SQA's Guide to Assessment and Quality Assurance for Colleges of Further Education* (www.sqa.org.uk).

8 General information for candidates

This Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 is a new award and it is intended for a variety of candidates from differing backgrounds who would like to gain a qualification in the specialised area of web development.

It is an appropriate qualification, if you are looking to enhance your skills or gain a qualification in web development whether in employment, or not. This Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 can also be achieved during the study of the HNC Interactive Media. An aim of the Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 is to further develop employment skills and enhance a candidate's employment prospects, by offering the opportunity to develop skills in internet business, website development and network technology.

The Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 comprises 2 single credit HN Units at SCQF level 7. These are the HN Unit F203 34 *Website Development Fundamentals* and the HN Unit F204 34 *Internet and Network Technology Fundamentals*. The Units may be taught as part of HNC Interactive Media or they may be taught as individual Units that form the Professional Development Award.

The curriculum content of the Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 has been mapped to CIW (Certified Internet Webmaster) (current May 2008). This means that by successfully completing the Units using the CIW materials you will have covered the content in preparation for the CIW examination(s).

F203 34 Website Development Fundamentals

This Unit is designed to enable candidates to develop websites using Extensible Hypertext Markup Language (XHTML) (or a similar markup language). Candidates will also be introduced to insert images, create hyperlinks, and add tables and forms to webpages. Other topics introduced will include validating XHTML code, the use of Cascading Style Sheets (CSS) and website publishing. On completion of the Unit the candidate should be able to:

- ◆ identify front-end and back-end webpage design issues
- ◆ create webpages using a markup language
- ◆ enhance webpage design with graphics and Cascading Style Sheets (CSS)
- ◆ identify requirements for website publishing

F204 34 Internet and Network Technology Fundamentals

This Unit is designed to introduce candidates to the knowledge and understanding of services, theoretical concepts and principles of internet technologies. Candidates will be introduced to the configuration and the effective use of popular web client applications (eg browsers, e-mail clients, etc.) in the context of internet protocols and networking concepts. Other topics include introduction to internet addressing and common internetworking server types. On completion of the Unit the candidate should be able to:

- ◆ define networks, the internet, internet protocols and the Domain Name System (DNS)
- ◆ configure and use web browsers for secure browsing, web searching, and accessing multimedia
- ◆ install, configure and troubleshoot e-mail, FTP, and SSH clients
- ◆ identify network addressing, components, architectures, topologies and major network operating systems
- ◆ describe the functions of common internetworking server types in relation to internet protocols

The Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 covers both practical and theory and this award is designed to allow a candidate adequate time to develop competencies using web development techniques. Within each Unit there will be both a theory and a practical element. The practical assessments will be project based and the theory assessments will be closed-book objective tests.

In order to successfully achieve the Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 it is necessary to achieve the mandatory Units of the award.

9 Glossary of terms

SCQF: This stands for the Scottish Credit and Qualification Framework, which is a new way of speaking about qualifications and how they inter-relate. We use SCQF terminology throughout this guide to refer to credits and levels. For further information on the SCQF visit the SCQF website at www.scqf.org.uk

SCQF credit points: One HN credit is equivalent to 8 SCQF credit points. This applies to all HN Units, irrespective of their level.

SCQF levels: The SCQF covers 12 levels of learning. HN Units will normally be at levels 6–9. Graded Units will be at level 7 and 8.

Subject Unit: Subject Units contain vocational/subject content and are designed to test a specific set of knowledge and skills.

Graded Unit: Graded Units assess candidates' ability to integrate what they have learned while working towards the Units of the Group Award. Their purpose is to add value to the Group Award, making it more than the sum of its parts, and to encourage candidates to retain and adapt their skills and knowledge.

Dedicated Core Skill Unit: This is a Unit that is written to cover one or more particular Core Skills, eg HN Units in Information Technology or Communications.

Embedded Core Skills: This is where the development of a Core Skill is incorporated into the Unit and where the Unit assessment also covers the requirements of Core Skill assessment at a particular level.

Signposted Core Skills: This refers to the opportunities to develop a particular Core Skill at a specified level that lie outwith automatic certification.

Qualification Design Team: The QDT works in conjunction with a Qualification Manager/Development Manager to steer the development of the HNC/D from its inception/revision through to validation. The group is made up of key stakeholders representing the interests of centres, employers, universities and other relevant organisations.

Consortium-devised HNCs and HNDs are those developments or revisions undertaken by a group of centres in partnership with SQA.

Specialist single centre and specialist collaborative devised HNCs and HNDs are those developments or revisions led by a single centre or small group of centres who provide knowledge and skills in a specialist area. Like consortium-devised HNCs and HNDs, these developments or revisions will also be supported by SQA.

10 Appendices

Appendix 1: National Occupational Standards Mapping

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The Performance Statements in Skillset's National Occupational Standards are analogous to the Knowledge and Skills contained in HN Units. The tables below show the mapping of the Knowledge and Skills of ALL of the Units within the SQA's HNC Interactive Media to Performance Statements contained in the Interactive Media elements (IM).

IM2 Obtain Assets for Use in Interactive Media Products		
Performance Statement	HN Unit	Outcome
1, 2, 3	Creating Digital Images	1

IM3 Prepare Assets for Use in Interactive Media Products		
Performance Statement	HN Unit	Outcome
1, 2, 3, 4, 8	Creating Digital Images	1, 2
1	Multimedia Computing Audio & Video 1	3
8	Multimedia Computing Audio & Video 2	3

IM4 Prepare User Interface Assets for Use in Interactive Media Products		
Performance Statement	HN Unit	Outcome
1, 2, 3	Creating Digital Images	1
2, 3, 4	Web Development Complex Content	3

IM5 Design User Interfaces for Interactive Media Products		
Performance Statement	HN Unit	Outcome
1, 2, 3, 4, 5		1, 3

IM6 Use Authoring Tools to Create Interactive Media Products		
Performance Statement	HN Unit	Outcome
1, 2, 3, 4, 5, 6, 8	Interactive Media: Authoring	1, 2, 3, 4, 5
1, 3, 4	DE32 35 Scripting for Interactivity	1, 2, 4

IM7 Code Scripts to Provide Functionality for Interactive Media Products		
Performance Statement	HN Unit	Outcome
1, 2, 3, 4, 5	Client Side Scripting for Web Apps	2, 3

IM8 Determine the Implementation of Designs for Interactive Media Products		
Performance Statement	HN Unit	Outcome
1	Interactive Media: Planning	1

IM12 Devise User Testing of Interactive Media Products		
Performance Statement	HN Unit	Outcome
1, 2, 4	Interactive Media: Planning	3
	Interactive Media Authoring	3

IM16 Plan Content for Web and Multimedia Products		
Performance Statement	HN Unit	Outcome
6	Web Development Essential Content	3

IM17 Architect Interactive Media Products		
Performance Statement	HN Unit	Outcome
1	Interactive Media: Planning	1
3	Web Development Essential Content	5

IM18 Use Mark-up in Interactive Media Products		
Performance Statement	HN Unit	Outcome
1, 2, 3	Web Development Essential Content	3, 4

IM19 Use Stylesheets in Interactive Media Products		
Performance Statement	HN Unit	Outcome
1, 2, 3	Web Development Complex Content	3, 5

IM24 Create 2D Animations for Interactive Media Products		
Performance Statement	HN Unit	Outcome
3, 5	2D animation	2, 3, 4

Space for centre logo



Award ID: G902 47 **Level:** SCQF level 7

Award title: Professional Development Award in Web Technologies: Fundamentals at SCQF¹ level 7

Introduction to the award

This Professional Development Award (PDA) is one of a suite of awards that have been designed to incorporate the knowledge and understanding required by popular vendor awards² into SQA's Higher National frameworks.

It has become increasingly clear that the content of vendor awards needed to be offered in a flexible format with generic Units.

The Units which now make up this Professional Development Award in Web Technologies: Fundamentals at SCQF level 7 include vendor-related topics, but are generic in nature. The Units are already in the HNC Interactive Media framework. Including this Professional Development Award into the HN frameworks allows a candidate to work towards a Higher National qualification via short courses or part-time study.

Target audience

Vendor awards are becoming increasingly popular with both candidates and employers.

As this award covers the knowledge and understanding associated with the web development area it is an award that would be attractive for someone who wishes to study web authoring and design. The award also maps to the Certified Internet Webmaster (CIW) curriculum and is, therefore, attractive for anyone who is working in industry and looking for a Continual Professional Development (CPD) opportunity. It would be attractive to a candidate who is looking for employment at an entry level position as a web developer. It would also be suitable for those wanting to prepare for advancement in their organisation.

¹ SCQF (Scottish Credit and Qualifications Framework) helps people to understand and compare different qualifications in Scotland. (visit the website www.scqf.org.uk for more information)

² Vendor awards are those awards designed and certificated by a product manufacturer or trade alliance organisation.

Candidates might also want to use this Professional Development Award to progress to further study in the interactive media area at Higher National level. On achieving this Professional Development Award a candidate would also have the knowledge and skills required to sit the Certified Internet Webmaster (CIW) Associate examination(s). Successful completion of this Professional Development Award would offer progression to higher levels of study.

Conditions of award

Both mandatory Units must be achieved in order to gain the award.

Content and structure of the award

The two Units are mandatory.

Unit title	Code	SCQF credit value	SCQF * level
Web Development Fundamentals	F203 34	1	7
Internet and Network Technology Fundamentals	F204 34	1	7

*The Scottish Credit and Qualifications Framework (SCQF) is a way of helping people understand and compare Scottish Qualifications, by giving them credit points which shows how much learning has been achieved and a level on a scale of 12, to show how demanding the learning is. Details can be found at www.scqf.org.uk

At the end of the award candidates will be able to:

- ◆ describe basic website development fundamentals
- ◆ identify front-end and back-end webpage design issues
- ◆ create webpages using a markup language
- ◆ enhance webpage design with graphics and Cascading Style Sheets (CSS)
- ◆ identify requirements for website publishing
- ◆ define networks, the internet, internet protocols and the Domain Name System (DNS)
- ◆ configure and use web browsers for secure browsing, web searching, and accessing multimedia
- ◆ install, configure and troubleshoot e-mail, FTP, and SSH clients
- ◆ identify network addressing, components, architectures, topologies and major network operating systems
- ◆ describe the functions of common internetworking server types in relation to internet protocols

Centre contact details