



National Unit specification

General information

Unit title: Computing: Website Design and Development
(SCQF level 5)

Unit code: F182 11

Superclass: CB

Publication date: November 2013

Source: Scottish Qualifications Authority

Version: 02

Unit purpose

This Unit is designed to develop knowledge and understanding of the website design and development process. It covers planning, designing, constructing and testing. This Unit also develops practical skills in the process of developing a website using web authoring tools. This Unit is suitable for learners who have some experience of using computer application software to create basic webpages and who wish to develop their knowledge and skills towards taking a more formal approach to website design and development.

This is an optional Unit within the National Certificate in Computing with Digital Media at SCQF level 5, a mandatory Unit within the NPA in Web Design Fundamentals at SCQF level 5 and is also available as a free-standing Unit.

Outcomes

On successful completion of the Unit the learner will be able to:

- 1 Produce a plan for the design and creation of a website to a given brief.
- 2 Design a website to a client's requirements.
- 3 Construct and upload a functional website.
- 4 Test and review a website.

Credit points and level

1 National Unit credit at SCQF level 5: (6 SCQF credit points at SCQF level 5)

National Unit specification: General information (cont)

Unit title: Computing: Website Design and Development
(SCQF level 5)

Recommended entry to the Unit

Entry is at the discretion of the centre. However, it would be beneficial if learners possessed basic digital literacy and web design skills.

This may be evidenced by possession of: F3GC 10 *Information and Communication Technology (ICT)* or equivalent qualifications or experience.

Core Skills

Opportunities to develop aspects of Core Skills are highlighted in the Support Notes for this Unit specification.

There is no automatic certification of Core Skills or Core Skill components in this Unit.

Context for delivery

If this Unit is delivered as part of a Group Award, it is recommended that it should be taught and assessed within the subject area of the Group Award to which it contributes.

The Assessment Support Pack (ASP) for this Unit provides assessment and marking guidelines that exemplify the national standard for achievement. It is a valid, reliable and practicable assessment. Centres wishing to develop their own assessments should refer to the ASP to ensure a comparable standard. A list of existing ASPs is available to download from SQA's website (<http://www.sqa.org.uk/sqa/46233.2769.html>).

Equality and inclusion

This Unit specification has been designed to ensure that there are no unnecessary barriers to learning or assessment. The individual needs of learners should be taken into account when planning learning experiences, selecting assessment methods or considering alternative evidence.

Further advice can be found on our website www.sqa.org.uk/assessmentarrangements.

National Unit specification: Statement of standards

Unit title: Computing: Website Design and Development
(SCQF level 5)

Acceptable performance in this Unit will be the satisfactory achievement of the standards set out in this part of the Unit specification. All sections of the statement of standards are mandatory and cannot be altered without reference to SQA.

Outcome 1

Produce a plan for the design and creation of a website to a given brief.

Performance Criteria

- (a) Identify the client requirements for the proposed website.
- (b) Identify the website requirements and target audience for the proposed website.
- (c) Identify hardware and software requirements for developing the site.
- (d) Identify the key tasks and timescales for the website development.

Outcome 2

Design a website to a client's requirements.

Performance Criteria

- (a) Design the overall structure of the proposed website.
- (b) Design the layout of the webpages.
- (c) Plan the colour and typography scheme for the proposed website.

Outcome 3

Construct and upload a functional website.

Performance Criteria

- (a) Acquire content for the website.
- (b) Create content for the website.
- (c) Construct a functional website.
- (d) Upload the website to a web-server.

Outcome 4

Test and review a website.

Performance Criteria

- (a) Carry out testing of the website to make sure it functions as required.
- (b) Record results of testing and rectify as required.
- (c) Test the website for accessibility and usability.
- (d) Review the website against the client's requirements.

National Unit specification: Statement of standards (cont)

Unit title: Computing: Website Design and Development
(SCQF level 5)

Evidence Requirements for this Unit

Evidence is required to demonstrate that learners have achieved all Outcomes and Performance Criteria.

Learners must demonstrate that they can plan the design and construction of a website from a client brief, acquire and create appropriate assets, construct and upload a website then test and evaluate the website.

Outcomes 1–4

For Outcomes 1–4, evidence should be generated under supervised open-book conditions. The evidence may be produced at appropriate points throughout the Unit rather than on one assessment occasion.

Assessors must authenticate each learner's work.

Learners are allowed access to suitable online and offline materials during the open-book assessments.

Outcome 1

For Outcome 1 evidence is required that shows the learner can produce a plan for the design and creation of a website to a client's requirements. The plan must demonstrate that the learner can use appropriate techniques/methodologies to identify:

- ◆ the client requirements for the proposed website.
- ◆ the website requirements and target audience for the proposed website.
- ◆ hardware and software required for developing the site.
- ◆ resources/assets and source of resources/assets required for the website content.
- ◆ the key tasks and timescales for the project.

Outcome 2

For Outcome 2 evidence is required that shows the learner can produce design documentation for the proposed website. The design documentation must include, as a minimum, the proposed website structure and web page layouts detailing the position of elements and the colour and typography schemes.

National Unit specification: Statement of standards (cont)

Unit title: Computing: Website Design and Development
(SCQF level 5)

Outcome 3

For Outcome 3 evidence is required that shows learners can:

- ◆ acquire and create appropriate content to include in the website.
- ◆ create an HTML website that demonstrates the following:
 - a minimum of four web pages
 - each page containing text and images
 - Cascade Style Sheets for all styling
 - a minimum of three additional functional elements.
- ◆ upload the website to a web server.

Outcome 4

For Outcome 4 evidence is required that shows the learner can carry out testing on the website to make sure that it functions as required, record results and rectify errors as required.

Evidence is also required that shows the learner can test the website for accessibility, usability and whether the website fulfils the requirements identified.



National Unit Support Notes

Unit title: Computing: Website Design and Development
(SCQF level 5)

Unit Support Notes are offered as guidance and are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this Unit

Outcome 1

The introduction to this Unit should outline the website design and development process, ie plan, design, develop, upload and test. Emphasis should be made of the cyclical and iterative nature of the design process.

Learners should be introduced to determining the goals, audience and delivery requirements for a website, which may include the following:

- ◆ Client requirements: goals and purpose of a website, eg promotional, selling (e-commerce), personal, educational, etc.
- ◆ Target audience: age group, gender, interests, computing ability, etc.
- ◆ Website requirements: usability requirements, accessibility requirements, look and feel, functional requirements, browser compatibility, responsiveness, etc.

Outcome 2

Learners should learn about different methods of showing website structure and layouts of webpages. These could include:

- ◆ Navigation maps
- ◆ Site maps
- ◆ Wireframes
- ◆ Storyboards
- ◆ Moodboards
- ◆ Mock ups

National Unit Support Notes (cont)

Unit title: Computing: Website Design and Development
(SCQF level 5)

Outcome 3

Learners should use text editors and graphics software to create text and graphics for use in a website. They should be made aware of the legalities of using acquired text and graphics. This should include copyright and the Creative Commons license.

Learners should create websites using editors or authoring tools. They would benefit from being introduced to the basic HTML structure tags and CSS. The websites do not need to be complex, but should include CSS and a selection from: forms, video, animation, photo displays, lists and drop down menus and any other appropriate functional or rich media elements.

Outcome 4

The importance of testing and evaluation should be stressed as an important stage of the development process, and types of testing and evaluation should be covered, including:

- ◆ Functional testing
- ◆ End user testing
- ◆ Usability testing
- ◆ Accessibility testing

Guidance on approaches to delivery of this Unit

Learners should examine existing websites to determine their structure and layout before selecting appropriate site structure and layout for their own websites. Some time may be required to demonstrate how best to show navigation and structure in navigation maps.

Learners would benefit from interviewing a client to determine the requirements for a website. It may be impractical for a single client (or assessor acting as a client) to conduct such an interview with each learner individually. So it is suggested that each learner prepares a set of interview questions and participates in a class discussion of the requirements. Alternatively, learners may be paired together with one learner acting as the client and the other as the web designer.

The four Outcomes should be delivered in an integrated way, as part of an extended test project based on creating a website to fulfil a client's requirements. The client requirements should cover all Performance Criteria for all Outcomes, ie a website which includes:

- ◆ A minimum of four web pages
- ◆ Each page containing text and images
- ◆ CSS for all styling
- ◆ A minimum of three additional functional and/or rich media elements, eg form, video, photo gallery, drop down menus, animation, etc

National Unit Support Notes (cont)

Unit title: Computing: Website Design and Development
(SCQF level 5)

These same requirements can then be used when learning about designing, constructing and testing websites.

Learners should be encouraged to follow the website design and development process.

Guidance on approaches to assessment of this Unit

Evidence can be generated using different types of assessment. The following are suggestions only. There may be other methods that would be more suitable to learners.

Centres are reminded that prior verification of centre-devised assessments would help to ensure that the national standard is being met. Where learners experience a range of assessment methods, this helps them to develop different skills that should be transferable to work or further and higher education.

The evidence for all Outcomes should be generated under open-book conditions, whether this need be under supervised or unsupervised conditions is at the discretion of the assessor and the centre; however evidence must be produced under controlled conditions whenever possible and where appropriate. The amount of control will vary from context to context. However, in every case, the conditions of assessment must be controlled to some extent. Where the amount of control is low, the amount of authentication should rise. It is not acceptable to produce evidence in lightly controlled conditions with little authentication.

Authentication may take various forms including, but not limited to, oral questioning and plagiarism checks. Some forms of evidence generation (such as video recordings) have intrinsic authentication and would require no further means of verification. Where evidence is not generated under closely controlled conditions (for example, out of class) then a statement of authenticity should be provided by the learner to verify the work as their own, and also state any necessary sources and permissions.

For Outcomes 1–4, evidence generated under supervised open-book conditions is required. It is recommended that a holistic approach to assessment is taken, and that Outcomes 1 to 4 are assessed as a project undertaken over a period of time. An assessor observation checklist could be used to indicate that the website incorporates all required evidence and is uploaded and tested.

The web project brief should be supplied by the assessor and should be complex enough to cover all Evidence Requirements.

If the Unit is being delivered as part of the NPA Web Design Fundamentals (SCQF level 5) then it may be advantageous to assess the three mandatory Units in an integrated manner.

National Unit Support Notes (cont)

Unit title: Computing: Website Design and Development
(SCQF level 5)

Opportunities for e-assessment

E-assessment may be appropriate for some assessments in this Unit. By e-assessment we mean assessment which is supported by Information and Communication Technology (ICT), such as e-testing or the use of e-portfolios or social software. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. The most up-to-date guidance on the use of e-assessment to support SQA's qualifications is available at www.sqa.org.uk/e-assessment.

Opportunities for developing Core and other essential skills

This Unit will provide opportunities for learners to develop Core Skills in *Information and Communication Technology (ICT)* due to the variety of software that they may use. Opportunities are also provided for learners to develop skills in planning and testing.

Enterprise, employability and citizenship could also be incorporated depending on the nature of the brief for the website project and the level of realism, for example there may be a real client who they are producing the website for.

History of changes to Unit

Version	Description of change	Date
02	Updated to reflect changes in technology; streamline Outcome statements and Evidence Requirements in line with current guidelines.	27/11/13

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General information for learners

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(SCQF level 5)

This section will help you decide whether this is the Unit for you by explaining what the Unit is about, what you should know or be able to do before you start, what you will need to do during the Unit and opportunities for further learning and employment.

This Unit will introduce you to the website design and development process. You will learn about planning, designing, constructing and testing a website for a client from a website brief.

You will develop practical skills in constructing, uploading and testing a website.

To achieve this Unit you will have to pass a practical assessment where you will plan, design, construct, upload and test a website for a client brief.

This Unit will provide you with opportunities to develop Core Skills in *Information and Communication Technology (ICT)* due to the variety of software that you may use. You will also develop skills in planning and testing.

Enterprise, employability and citizenship could also be incorporated depending on the nature of the brief for the website project and the level of realism, for example you may be able to produce a website for a 'real-life' client.

You do not need experience of web design and development before attempting this Unit, however it would be beneficial if you possessed basic digital literacy skills.

On completion of this Unit you will be able to:

- 1 Produce a plan for the design and creation of a website to a given brief.
- 2 Design a website to a client's requirements.
- 3 Construct and upload a functional website.
- 4 Test and review a website.