National Unit specification

General information

Unit title: Computing: Authoring a Website (SCQF level 6)

Unit code: F3T2 12

Superclass: CB

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Source: Scottish Qualifications Authority

Version: 02

Unit purpose

This Unit is designed to give learners experience in the planning and development of a small website to meet a client requirement. The learner will be introduced to the main factors that can affect both the website performance and viewing experience for the website user. Learners will gain the knowledge and skills required to take forward a brief for a website by planning and designing before producing the website. They will be introduced to HTML and CSS and learn how to use web authoring tools to produce a website. Finally the learner will upload the website and perform functional and performance testing.

This Unit is suitable for learners studying any computing subject and who wish to develop their knowledge and skills in developing a website.

This is a mandatory Unit within the National Certificate in Computing with Digital Media at SCQF level 6.

Outcomes

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

1   Describe the main factors influencing website development.
2   Plan and design a website to meet a given brief.
3   Produce a website from the design specification using appropriate software tools.
4   Upload and test the website.

Credit points and level

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

National Unit specification: General information (cont)

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Recommended entry to the Unit

Entry is at the discretion of the centre. Learners doing this Unit do not need prior knowledge. However it would be beneficial if learners possess one of the following, or equivalent:

H613 11   *Computing: Website Design Fundamentals*
F182 11   *Computing: Website Design and Development*
H614 11   *Computing: Website Graphics*

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

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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

Describe the main factors influencing website development.

Performance Criteria

(a)	Describe factors that affect the performance and viewing of websites.
(b)	Describe the role and functions of the World Wide Web Consortium (W3C).
(c)	Describe a range of web development tools.

Outcome 2

Plan and design a website to meet a given brief.

Performance Criteria

(a)	Produce a requirements list from the brief.
(b)	Produce an outline design for the website.
(c)	Create a navigational structure for the website.
(d)	Produce a resources list.

Outcome 3

Produce a website from the design specification using appropriate software tools.

Performance Criteria

(a)	Produce a template web page that will provide consistent layout and formatting throughout the website.
(b)	Produce the completed website using the template.

Outcome 4

Upload and test the website.

Performance Criteria

(a)	Upload the website to a server.
(b)	Produce a test plan.
(c)	Implement the test plan for the website.
(d)	Log the test results and resolve any identified errors.

National Unit specification: Statement of standards (cont)

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Evidence Requirements for this Unit

Evidence is required to demonstrate that learners have achieved all Outcomes and Performance Criteria. Assessors should use their professional judgement, subject knowledge and experience, and understanding of their learners to determine the most appropriate ways to generate evidence and the conditions and contexts in which they are used.

Outcome 1

For Outcome 1 evidence is required which demonstrates that the learner has achieved the standard specified in the Outcome and Performance Criteria. This evidence should be generated under closed-book supervised conditions. The instrument of assessment should provide opportunities for the learner to describe each of the following:

♦ The factors that affect the performance and viewing of websites
♦ The role and functions of the World Wide Web Consortium (W3C)
♦ A range of web development tools

Outcomes 2–4

For Outcomes 2–4 evidence 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. Learners are allowed access to suitable online and offline materials during open-book assessments.

The evidence for Outcome 2 must show that learners can plan and design a website to meet a given brief. The specification must include a requirements list, an outline page design, a navigation structure and resources list.

The evidence for Outcome 3 must show that learners can produce a website from their specification using appropriate software tools. The website must demonstrate consistent layout and formatting/styling using current recognised methods.

The evidence for Outcome 4 must show that learners can upload their website to a server and perform testing to make sure that the website functions and performs as required. The evidence must include the production of a test plan, recording of test results and the correction of any errors.

National Unit Support Notes

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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

This is a mandatory Unit within the NC in Computing with Digital Media at SCQF level 6.

The overall aim of the Unit is to provide learners with the knowledge and skills to be able to plan and develop a website to meet a client requirement. Learners will be introduced to the main factors that can affect both the website performance and viewing experience for the website user. The Unit will introduce learners to recognised standards for the design and presentation of information on a website, the factors that should be considered during development and the tools and technologies available for creating and publishing websites. Learners will produce a design for the layout, content and navigation of a website to meet a given client requirement and then use software tools to construct the website. They will be introduced to HTML and CSS and learn how to use web authoring tools to produce to website. Finally learners will upload websites and perform functional and performance testing.

The precise content of this Unit will change over time, as technology, languages and tools develop.

Outcome 1 is theory based and its aim is to give learners some fundamental knowledge and understanding of the current factors that affect the design and development of a website.

Learners must be aware of the vast variation in devices that people now use to connect to the internet and the implications for websites both for viewing and performance.

Learners must be aware of the World Wide Web Consortium (W3C) and its role in setting and maintaining standards.

Learners must be aware of various software tools that can be used during web development and this could include text editors, authoring tools and graphics software.

Outcome 2 exposes learners to planning and designing a website from a client brief.

Learners should be able to define the purpose of the website, list the website requirements, identify the target audience and the resources required to develop the website.

National Unit Support Notes (cont)

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Learners should be able to create a prototype layout for the website that defines the areas and placement of content as well as a font and colour scheme. This could be implemented either on paper or digitally and could take the form of storyboards, wireframes, mood boards or any other suitable form.

Learners should be able to create a navigational structure for the website that identifies each page and in turn can be used to implement the navigation on the site.

Outcome 3 will give learners the opportunity to become proficient at using a web authoring tool. The tool selected is at the discretion of the centre. Although learners can develop the website within a visual environment they should be introduced to (at least) the common HTML structure elements and basic CSS.

Outcome 4 should give learners experience in uploading a website to a server using File Transfer Protocol (FTP) or other appropriate facility. The server could be external or internal. Learners should then thoroughly test the functionality of the website and record the results in a test plan. Testing should include all links and user interactivity as well as the appearance of all planned media elements and how the website displays in different browsers and devices if this is possible.

Guidance on approaches to delivery of this Unit

It is advisable that the Outcomes are delivered in the sequence in which they were written.

Learners will benefit from gaining the fundamental knowledge that affect decisions on web design and development before planning, designing and producing a website.

Learners will require individual access to appropriate computer hardware and software throughout this Unit.

Outcome 1 is theory based and learners should be encouraged to carry out research. Use should be made of the web itself to access up-to-date information about current technologies and trends. Opportunities for paired or group work will present themselves in this research activity.

Prior to Outcome 2, learners might benefit from exposure to the content of Outcome 3, where they will gain substantial practical skills in authoring web pages. This will give learners the knowledge to produce realistic and attainable design briefs.

In Outcome 3 learners should be introduced to basic HTML for page structure and CSS for styling. This can be done within an authoring environment or a basic text editor. There are many excellent online resources that could be used, for example **www.w3schools.com**

The centre can decide what web authoring tool(s) to use for this Unit. Learners should be given time to become familiar with using the authoring environment before attempting the assessment.

National Unit Support Notes (cont)

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In Outcome 4, learners are required to upload their website to a web server. The centre can decide whether this is done internally or externally. There are a variety of free web hosts which can be used for development and assessment purpose.

Given the steps involved in this process it would be beneficial if learners could rehearse this procedure through practical exercises throughout the Unit. This will reinforce the importance of structure and appropriate file naming conventions on a website. There will be opportunities for collaborative working here with learners testing each other's websites in pairs.

The amount of time spent on each area of content will vary depending on the teaching methodology used and the ability and prior experience of the learners. While the actual distribution of time is at the discretion of the centre a recommended distribution of time is as follows:

Outcome 1   5 hours
Outcome 2   10 hours
Outcome 3   20 hours
Outcome 4   5 hours

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.

Outcome 1 should be closed-book and assessed separately under supervised conditions towards the end of the Unit to enable learners to acquire knowledge through the practical activities covered in other Outcomes. Outcome 1 lends itself to the use of an objective test. Where re-assessment is required it should contain a different set of questions.

Outcomes 2, 3 and 4 require learners to plan and design, and then produce, upload and test a website to meet the requirements of a given client brief. This evidence could be gathered through a single extended task, based on a selected website brief. Where this approach is used, the brief for this should be issued to learners early on in the Unit.

All text and images required for the webpages should be readily accessible and in the appropriate format for incorporation into the webpages. Learners should be encouraged to use systematic approaches to specifying the requirements and producing the design.
It is recommended that the centre produces a pro forma storyboard (or web wireframe or similar) for learners to complete when creating their outline design. The centre may also wish to produce a pro-forma for a test plan

An assessor observation checklist could be used to record that all the tasks have been undertaken correctly by the learner. An assessor should endorse each checklist with the learner's name, their own name, signature and date.

National Unit Support Notes (cont)

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The assessment for Outcomes 2, 3 and 4 is open-book and learners will have access to notes, reference materials and online help for this assessment. 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.

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 *Problem Solving* and *Information and Communication Technology (ICT).*

The Unit will also provide opportunities for learners to develop skills in planning, decision making, implementation and testing. Enterprise, employability and citizenship could also be incorporated depending on the nature of the client brief for the creation of the website 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.	12/12/13

General information for learners

Unit title: Computing: Authoring a Website (SCQF level 6)

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 give you experience in the planning and development of a website to meet a client requirement. You will be introduced to the main factors that can affect both the website performance and viewing experience for the website user.

You will be introduced to basic HTML and CSS, these are the fundamental languages upon which all websites are built. You will then learn how to use web authoring tools to produce to website and have the opportunity to upload and test a website.

To achieve this Unit you will have to pass a practical assessment where you will plan and design, and then produce, upload and test a website, working to a client brief. Additionally you will be assessed on your knowledge of the main factors influencing website development.

This Unit will provide opportunities for you to develop Core Skills in *Problem Solving* and *Information and Communication Technology (ICT).*

You do not need prior knowledge before attempting this Unit, however it would be beneficial if you possessed an SCQF level 5 Unit covering website design.

On completion of this Unit you may wish to consider further study in website design and development at SCQF level 7.

Outcomes

On completion of this Unit you will be able to:

1   Describe the main factors influencing website development.
2   Plan and design a website to meet a given brief.
3   Produce a website from the design specification using appropriate software tools.
4   Upload and test the website.