

National Unit Specification: general information

UNIT	The Internet (Intermediate 2)
NUMBER	DM4F 11
COURSE	Information Systems (Intermediate 2)

SUMMARY

This Unit is designed to develop knowledge and understanding of the operating principles of the Internet, Internet services and web page design and provides an opportunity to apply this knowledge to solve practical problems through the use of contemporary hardware and software. It is designed as an option for candidates undertaking the Intermediate 2 Information Systems Course, but is also suitable for anyone wishing to develop a basic understanding of the underlying technology of the Internet.

OUTCOMES

1. Demonstrate knowledge and understanding of the Internet with regard to operating principles, services, resources and web page construction.
2. Demonstrate practical skills using contemporary hardware and software in the context of Internet use and web page instruction.

RECOMMENDED ENTRY

While entry is at the discretion of the centre, candidates would normally be expected to have attained one of the following, or equivalent:

- ◆ Intermediate 1 Computing Studies
- ◆ Standard Grade Computing Studies at General level

Administrative Information

Superclass:	CB
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National Unit Specification: general information (cont)

CREDIT VALUE

1 credit at Intermediate 2 (6 SCQF credit points at SCQF level 5*).

** SCQF credit points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCQF credit points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to Doctorates.*

CORE SKILLS

Information on the automatic certification of any Core Skills in this Unit is published in *Automatic Certification of Core Skills in National Qualifications* (SQA, publication code BA0906).

National Unit Specification: statement of standards

UNIT The Internet (Intermediate 2)

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 the Scottish Qualifications Authority.

OUTCOME 1

Demonstrate knowledge and understanding of the Internet with regard to operating principles, services, resources and web page construction.

Performance Criteria

- a) Basic terminology is used appropriately.
- b) Simple descriptions and explanations are related to practical and familiar contexts.
- c) Simple conclusions, predictions and generalisations are made from knowledge and understanding.

Evidence Requirements

Written or oral evidence that the candidate can describe and explain the principles, features and purposes of the Internet accurately and concisely. Evidence could be obtained using questions in a closed book test, under supervision, lasting no more than 45 minutes. The test must sample the content (see Information Systems (Intermediate 2) Course Content) in each of the following areas:

- ◆ Internet fundamentals
- ◆ services and resources provided by the Internet
- ◆ Internet developments
- ◆ construction of Internet web page

(The content statements are also reproduced for convenience as a table in the support notes for this Unit)

The standard to be applied is illustrated in the National Assessment Bank items available for this Unit. If a centre wishes to design its own assessments for this Unit, they should be of a comparable standard.

National Unit Specification: statement of standards (cont)

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OUTCOME 2

Demonstrate practical skills using contemporary hardware and software in the context of Internet use and web page construction.

Performance Criteria

- a) A range of appropriate hardware is used effectively.
- b) Common features of software are selected and used effectively.
- c) practical skills are planned and organised with detailed guidance.
- d) Practical tasks are undertaken in an appropriate range of simple contexts.

Evidence Requirements

Observation checklist showing that the candidate has demonstrated practical skills at an appropriate level in four of the following contexts:

- ◆ accessing the Internet for WWW Boolean searching and email
- ◆ use of main functions and features of an appropriate standard application package for web page construction
- ◆ use of relative page addressing
- ◆ creation of web page with links to other pages on same site

Hard copy evidence should be provided demonstrating two of these skills.

These practical skills may all be demonstrated in a single extended task, or in a number of smaller tasks.

The practical skills should be demonstrated in the context defined in the content statements (see Information Systems (Intermediate 2) Course Content).

The candidate will be allowed access to books, notes and online help while completing the task(s).

(The content statements are also reproduced for convenience as a table in the support notes for this Unit).

The standard to be applied is illustrated in the National Assessment Bank items available for this Unit. If a centre wishes to design its own assessments for this Unit, they should be of a comparable standard.

National Unit Specification: support notes

UNIT The Internet (Intermediate 2)

This part of the Unit Specification is offered as guidance. The support notes 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

The content for this Unit is detailed below (and also in the National Course Specifications: Course details.)

Content Statements: Internet fundamentals
Description and explanations of the following concepts in relation to Internet operation and usage: <ul style="list-style-type: none">◆ Internet hosting◆ packets◆ TCP/IP◆ IP addresses◆ routing◆ bandwidth◆ hardware components (router, switch, multiplexer)◆ physical structure and topology of the Internet
Description of the need for protocols. Description of the purpose of the following protocols: <ul style="list-style-type: none">◆ http◆ FTP◆ POP/SMTP
Description and explanation of the social, ethical and legal implications of the internet including effects on: family, employment and information rich and poor. Explanation of issues related to censorship and privacy.

National Unit Specification: support notes (cont)

UNIT The Internet (Intermediate 2)

Content Statements: Services and resources provided by the Internet
Description of the main features of the following Internet services and resources, or contemporary replacements: <ul style="list-style-type: none">◆ World Wide Web (WWW)◆ email (web and client based)◆ conferencing and newsgroups◆ file transfer and file updating◆ chat/instant messaging
Exemplification of uses of these services in business, educational and personal contexts.
Description and effective use of internet browser software, including navigation, search and save facilities.
Description and effective use of search engines, including Boolean searching.
Description of main features and uses of a range of Internet advanced search services.
Explanation of the need for and use of virus protection, including the need for regular updating of virus protection software.

Content Statements: Internet developments
Description of current trends in Internet development with regard to the influence of the following on system performance: <ul style="list-style-type: none">◆ communications hardware◆ browsing software◆ security software

Content Statements: Construction of Internet web page
Description of the main features of web authoring packages: <ul style="list-style-type: none">◆ icon based◆ web tools◆ scripting tools◆ hyperlinks◆ file structure

National Unit Specification: support notes (cont)

UNIT The Internet (Intermediate 2)

Description and exemplification of:

- ◆ absolute page addressing
- ◆ relative page addressing
- ◆ picture compression

Explanation of

- ◆ problems associated with absolute addressing
- ◆ the need for picture compression

Description and exemplification of the creation of web page with links to other pages on same site.

National Unit Specification: support notes (cont)

UNIT The Internet (Intermediate 2)

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

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

The two Outcomes should be delivered in an integrated way. Appropriate practical activities should be taught and used to illustrate and exemplify the knowledge and understanding required for Outcome 1. These practical activities can be used to generate evidence for Outcome 2.

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 candidates. However, the following times are suggested as a rough guide:

Internet fundamentals	10 hours
Services and resources provided by the Internet	8 hours
Internet developments	6 hours
Construction of Internet web page	12 hours

1½ hours should be set aside to:

- a) administer the Outcome 1 test
- b) gather evidence for Outcome 2

A further 2½ hours is allowed for remediation and re-assessment if required.

If the Unit is delivered as part of a Course, the Course documentation will provide further information on teaching and learning in a Course context, including the identification of a number of 'themes' to facilitate holistic learning across the Course.

National Unit Specification: support notes (cont)

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GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

National Assessment Bank tests have been created specifically to assess Outcome 1 of the Unit. This assessment consists of a closed book test, and must be conducted under examination conditions. In order to gain success in this Outcome, the candidate must achieve at least the cut-off score for the test. If a centre wishes to design its own assessments for this Unit, they should be of a comparable standard.

Outcome 2 requires the candidate to demonstrate practical skills while using contemporary hardware and software. These practical skills will normally be demonstrated in the context of a number of relatively small tasks. The task(s) will normally be undertaken by the candidate as part of the teaching and learning activities of the Unit, rather than as separate formal assessment activities. The candidate will be allowed access to books, notes and online help while completing the task(s). The practical skills should be demonstrated in the context defined in the content statements (see Information Systems (Intermediate 2) Course Content).

To gain success in this Outcome, the candidate must demonstrate practical skills at an appropriate level in four of the following contexts, defined in the content statements (see Internet Intermediate 2 Course content):

- ◆ accessing the Internet for WWW Boolean searching and email
- ◆ use of main functions and features of an appropriate standard application package for web page construction
- ◆ use of relative page addressing
- ◆ creation of web page with links to other pages on same site

Hard copy evidence should be provided demonstrating two of these skills. Note that this need not be formal documentation — print outs and screen shots showing appropriate activities are adequate — and that a single item of evidence could provide evidence of more than one skill.

An observation checklist for Outcome 2 is provided in the National Assessment Bank materials.

All evidence must be retained by the centre. The assessment of this Unit is subject to moderation by SQA.

SPECIAL NEEDS

This Unit Specification is intended to ensure that there are no artificial barriers to learning or assessment. Special needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering special alternative Outcomes for Units. For information on these, please refer to the SQA document *Guidance on Special Assessment Arrangements* (SQA, September, 2003).