National Unit Specification: General Information

SCOTTISH QUALIFICATIONS AUTHORITY

UNIT Information Technology (Intermediate 2)

NUMBER D01D 11

COURSE

SUMMARY
This core skills unit develops skills in the effective use of an IT system to perform routine processing of a range of data.

OUTCOMES
1 Use an IT system effectively.
2 Perform processes using a range of application packages.
3 Carry out searches to extract and present relevant information.

RECOMMENDED ENTRY
While entry is at the discretion of the centre, candidates would normally be expected to have attained Information Technology (Intermediate 1).

CREDIT VALUE
1 Credit at Intermediate 2.

CORE SKILLS
Information on the automatic certification of core skills is published in *Automatic Certification of Core Skills in National Qualifications* (SQA, 1999).

The attainment of this unit will lead to the automatic award of:

- Information Technology at Intermediate 2.

Administrative Information

Superclass: CD

Publication date: December 1998

Source: Scottish Qualifications Authority

Version: 01

National unit specification: statement of standards

UNIT Information Technology (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
Use an IT system effectively.

Performance Criteria
a) Operation of hardware devices is efficient.
b) Operation of the system is responsible and considerate to other users.
c) Security and management of data is effective and efficient.
d) Use of operating system is effective.

Evidence Requirements
Performance evidence that the candidate can use an IT system. Candidates must use a minimum of five hardware devices including the following: input device (eg. keyboard); pointing device (eg. mouse); output device (eg. monitor and printer); storage device (eg. disk drive).

Candidates must use the operating system to: start up the system; close down the system; launch applications; locate data and applications; use a filing system; manage data.

Candidates should use simple tools selected from a range of simple tools such as file managers, print managers and control panels.

OUTCOME 2
Perform processes using a range of application packages.

Performance Criteria
a) Routine processes are carried out efficiently and effectively.
b) Complex processes are carried out effectively.
c) Integration of different data types is effective.
d) Data is output accurately in an appropriate format.

Evidence Requirements
Performance evidence that the candidate can perform the following routine processes: enter; edit; output.

Candidates must use at least three application areas selected from text processing, spreadsheet, database, simulation, graphics, communications, audio/music, desktop publishing, programming language, data logging, control, e-mail. One package must be used to perform complex processes, such as use of templates, macros and auto-correction facilities in text processing.

National unit specification: statement of standards (cont)

UNIT Information Technology (Intermediate 2)

These applications must involve the use of a minimum of two types of data from text, number, graphics, sound, video.

OUTCOME 3
Carry out searches to extract and present relevant information.

Performance Criteria
a) Selection of data sources is effective.
b) Search strategy selected is efficient and effective.
c) Data is correctly extracted using several selection criteria.
d) Information is presented effectively.

Evidence Requirements
Oral and/or written evidence that the candidate can select data sources.

Performance evidence that the candidate can carry out searches and extract and present data. At least two searches must be carried out involving different data sets or different forms of information.

A paper or electronic copy of the presented information should be retained.

National unit specification: support notes

UNIT Information Technology (Intermediate 2)

This part of the unit specification is offered as guidance. None of the sections of the support notes is mandatory.

GUIDANCE ON CONTENT AND CONTEXT
The content and context for this core skills unit should be appropriate to the personal and vocational needs of the candidate.

Core skills units are stated at five levels of attainment, with activities becoming progressively more demanding in breadth and depth, and in the extent of individual autonomy required. The appendix to this unit shows the relationship between the levels in Information Technology.

Outcome 1

This outcome relates to the effective use of an IT system. Candidates are required to operate hardware efficiently (performance criterion a). Candidates are required to use a keyboard, mouse, monitor, disk drive and printer. Efficient use means that candidates are able to use these devices productively and independently. Candidates' activities must be consistent with manufacturers' recommended procedures but teachers/lecturers may interpret manufacturers' instructions for candidates. It is not anticipated that candidates will be directly exposed to manufacturers' documentation.

The operation of the system must be responsible and considerate to other users (performance criterion b). This means that the system should be used in a mature way with due regard for other users. For example, mistreating hardware or accessing unsuitable material would be considered irresponsible use of a system.

Candidates are required to manage data efficiently, effectively and securely (performance criterion c). Candidates must locate data and applications. In the context of data this simply means that they can find data once they have saved it; in the context of applications it means that they can navigate a filing system and find and load an application. For example, candidates should be encouraged to store data in a logical place (such as the 'My documents' folder on a Windows PC) so that it can be easily located and retrieved. Data security can involve backups, virus checking and passwords. Backups may involve full system backups or individual (or group) file backups and may require the use of special backup software or standard file copying software. The critical aspect is the candidate's appreciation of the importance of protecting important data. Virus testing may be undertaken using special software designed for this purpose. The use of passwords should include advice on the creation of effective passwords and the differences between good and bad passwords.

Candidates are also required to use an operating system effectively (performance criterion d). Candidates are required to start up and close down applications, start up and close down the system, use a filing system, manage data (see above) and use simple software tools (such as print managers, file managers and control panels). Their use of a filing system should include organising files (naming, copying and deleting) and folders (creating, naming and copying).

Outcome 2

This outcome relates to candidates' skills in using a range of application software. At least three application areas should be used from the prescribed list (see Evidence Requirements). Each package should be used efficiently and accurately (performance criterion a). So candidates are expected to be fairly skilled in their use of each package and the package should be used independently without teacher/lecturer support. One package must be used to perform complex processes (performance criterion b). They will vary from package to package. For example, in the context of a word processing program, complex automation facilities will include glossaries, templates, macros and auto-correction facilities; in the context of a desktop publishing program, complex proofing facilities will include spell correction and style checking facilities; and in the context of a graphics program, complex formatting facilities will include the effects and filters that you can apply to graphical images. The processing should involve the integration of at least two data types such as text and number or text and graphics or graphics and sound (performance criterion c). This could involve the production of a report or a leaflet or a Web page respectively. Output must be in an appropriate format (performance criterion d). For example, text and number could be output in the form of a report; text and graphics could be output in the form of a leaflet; and graphics and sound could be output in the form of a Web page.

Outcome 3

This outcome relates to candidates' ability to search, extract and present information. The source of the information could be a simple database (created by the candidate or provided to the candidate) or a CD-ROM based information source (such as an educational program) or the Internet (such as the World Wide Web). Candidates must select the source of the data (performance criterion a). For example, if the candidate wishes to locate data on foreign countries then appropriate sources would include CD-ROMs and the World Wide Web. Irrespective of the source, candidates are required to select a search strategy (performance criterion b). This simply means that the candidate should plan how s/he will go about searching for the requisite information and might involve a list of search engines and a mix of media (such as Internet, CD-ROM or local network). The plan need not be sophisticated but aimless browsing is not acceptable. An effective search strategy is one which comes up with the required information; an efficient strategy is completed within a short period of time. Candidates are required to select information which satisfies several criteria (performance criterion c). The criteria should be simple such as key terms or fields. The criteria may be

issued separately (i.e. one after the other so long as each criterion acts as a filter) or in combination (which may, or may not, involve Boolean operators). For example, a database file may be filtered using criteria on three fields within the database; an electronic encyclopaedia may be searched by progressively applying criteria one after the other; and a Boolean search could be applied to a WWW search engine.

Once the information has been located it must be extracted and presented (performance criterion d). This will depend on the nature of the information. For example, a subset of a database could simply be formatted and printed; an excerpt from an encyclopaedia could be copied to a clipboard and then inserted into a document; a sound file from the WWW could be downloaded and stored locally.

For the purposes of assessment, the searches must be diverse so, for example, two similar searches conducted using similar search criteria and resulting in similar results would not be acceptable.

GUIDANCE ON TEACHING AND LEARNING APPROACHES

The learning and teaching approaches should encourage candidates to identify the evidence of their attainment and to transfer the skills acquired to other contexts.

Programmes of work in core skills should be designed to engage candidates in the varied and purposeful use of interrelated skills through a range of tasks. These tasks may reflect the candidates' vocational interest or may be of more general interest. It is recommended that these tasks should be negotiated and planned in such a way that the evidence required for assessment is generated in the course of ongoing work rather than as a discrete exercise.

Learning and teaching in core skills should be active and candidate-centred. Candidates should have the opportunity to plan and make decisions for themselves and to show initiative and independence. Activities should provide opportunities to use skills in real situations for real purposes and may be part of projects or practical exercises set within the IT programme or drawn from activities in other vocational and social contexts.

Where the Information Technology unit is being combined with another unit to create an enhanced learning and teaching programme, care must be taken to ensure that all aspects of each unit are covered and adequate time must be allowed for the coverage of both units. Such a programme would create opportunities to consolidate the skills gained in this unit.

National unit specification: support notes (cont)

UNIT Information Technology (Intermediate 2)

GUIDANCE ON APPROACHES TO ASSESSMENT

The statement of satisfactory performance for each outcome indicates the minimum required for the purpose of summative assessment. However, the number of activities undertaken by the candidate in the course of the unit should not be limited to those specified for assessment purposes. In awarding the candidate Information Technology at Intermediate 2, the teacher/lecturer must be confident that the candidate will be able to demonstrate these skills in any appropriate context and set of circumstances.

Teacher/lecturers must remember to distinguish between their differing roles in formative and summative assessment. In the former, as much help and support as is required by the candidate may legitimately be given by the teacher/lecturer. *Tasks which are used to provide evidence for summative assessment must be completed by the candidate unaided.*

Evidence of attainment should be gathered, wherever possible, from integrated activities, whether this unit is being studied as a stand alone unit or is being used in combination with others.

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 alternative outcomes for units. For information on these, please refer to the SQA document *Guidance on Special Assessment and Certification Arrangements* (SQA, 1998).

Information Technology Core Skills Units **Appendix**
Progression chart

Skill	Access 2	Access 3	Intermediate 1	Intermediate 2	Higher
Use an IT System	Perform basic operations using an IT system.	Perform basic operations using an IT system.	Use an IT system effectively.	Use an IT system effectively.	Use an IT system effectively.
Use IT software	Perform simple processes using an application package.	Perform simple processes using a range of application packages.	Perform simple processes using a range of application packages.	Perform processes using a range of application packages.	Use software in an unfamiliar context to produce complex information.
Carry out searches	Extract and present information from an electronic source.	Extract and present information from an electronic source.	Carry out simple searches to extract and present relevant information.	Carry out searches to extract and present relevant information.	Carry out searches to extract and present relevant information.