



National Unit Specification: general information

UNIT PC Passport: Working with IT Software — Spreadsheet and Database (SCQF level 6)

CODE F1FJ 12

SUMMARY

This Unit is a mandatory Unit of PC Passport: Advanced but can also be undertaken as a free-standing Unit.

This Unit is designed to introduce complex features of spreadsheet and database application software. The candidate will gain practical experience in the use of complex features in these types of software. The Unit will also provide candidates with information regarding the selection of appropriate software for specific tasks.

The Unit is appropriate for any candidate who wishes to enhance their IT skills in spreadsheet and database application software.

OUTCOMES

- 1 Identify complex computer application software functions.
- 2 Explain issues relating to data and information.
- 3 Use complex computer application software functions.
- 4 Demonstrate and review the use of complex application software functions to produce solutions to specified tasks.

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:

- ◆ PC Passport: IT Software — Spreadsheets and Databases (SCQF level 5)
- ◆ PC Passport: IT Software — Word Processing and Presenting Information (SCQF level 5)

Administrative Information

Superclass: CD

Publication date: August 2010

Source: Scottish Qualifications Authority

Version: 02

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National Unit Specification: general information (cont)

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CREDIT VALUE

1 credit at Higher (6 SCQF credit points at SCQF level 6*)

**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

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

The Unit provides opportunities for candidates to develop aspects of the following Core Skills:

- ◆ Information Technology (SCQF level 6)
- ◆ Communication (SCQF level 6)
- ◆ Problem Solving (SCQF level 6)

These opportunities are highlighted in the Support Notes of this Unit Specification.

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

Identify complex computer application software functions.

Performance Criteria

- (a) Identify complex functions of a spreadsheet application package.
- (b) Identify complex functions of a database application package.

OUTCOME 2

Explain issues relating to data and information.

Performance Criteria

- (a) Explain the relevance of information produced by spreadsheets and database for different audiences.
- (b) Identify issues relating to data integrity and accuracy.

OUTCOME 3

Use complex computer application software functions.

Performance Criteria

- (a) Use complex functions of a spreadsheet application package.
- (b) Use complex functions of a database application package.

OUTCOME 4

Demonstrate and review the use of complex application software functions to produce solutions to specified tasks.

Performance Criteria

- (a) Select an application package for each specified task.
- (b) Justify choice of application package for the specified tasks.
- (c) Select appropriate complex information from a variety of sources.
- (d) Produce a solution to specified tasks.
- (e) Review the use of IT resources to produce a solution for the specified tasks and changes to improve efficiency when carrying out similar tasks in the future.

National Unit Specification: statement of standards (cont)

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EVIDENCE REQUIREMENTS FOR THIS UNIT

Evidence is required that candidates have achieved all Outcomes and Performance Criteria.

Candidates are encouraged to use the internet in any research, etc however the evidence produced must be the candidate's own words. Assessors should assure themselves of the authenticity of candidate's evidence.

Written and/or oral recorded, product and performance evidence is required which demonstrates that the candidate has achieved the requirements of all of the Outcomes and Performance Criteria.

Written and/or oral recorded evidence is required which demonstrates that the candidate has achieved Outcomes 1 and 2 to the standard specified in the Outcomes and Performance Criteria. The evidence for these Outcomes should be obtained under controlled, supervised conditions. The assessment should be closed-book and last no more than 45 minutes.

The instrument of assessment will provide opportunities for each of the Outcomes to be fulfilled by means of sampling across the range of the content of Outcomes 1 and 2. Where re-assessment is required, it should contain a different sample from the range of mandatory content contained within this document. Achievement can be decided by use of a cut-off score. Each sample must include the following:

- ◆ Six complex functions of a spreadsheet application package.
- ◆ Six complex functions of a database application package.
- ◆ Four different types of information to meet the needs of different audiences.
- ◆ Two issues relating to data integrity and accuracy.

The issues relating to data integrity should include data redundancy, data handling, data consistency and completeness of data.

Performance evidence supplemented by an assessor observation checklist is required which demonstrates that the candidate has achieved all mandatory requirements for Outcome 3 specified in this document to the standard specified in the Outcome and Performance Criteria. This evidence must be gathered under supervised, open-book conditions over an extended period of time.

Candidates are required to demonstrate that they can:

- ◆ Use the range of functions for both software application packages as detailed within this document.
- ◆ Create solutions, using software application packages, which meet the requirements of the specified tasks. The two specified tasks must be designed for two different software application packages covered in this Unit and the tasks must include those activities listed below.

Search a variety of sources (at least three) to locate the appropriate information required to include in the content and to select the information that is appropriate to the specification. Candidates should determine when sufficient information has been found that conveys appropriate meaning for the audience.

National Unit Specification: statement of standards (cont)

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Product evidence and written and/or oral recorded evidence is required which demonstrates that the candidate has achieved Outcome 4 to the standard specified in the Outcome and Performance Criteria. This evidence must be gathered under supervised, open-book conditions.

Candidates are required to provide written and/or oral recorded evidence:

- ◆ Describing how the tasks have been addressed.
- ◆ Reviewing their own strengths and weaknesses in using IT to complete the tasks taking into account feedback from others. The candidate must address the following:
 - how the candidate can share the knowledge and skills gained in this Unit to help others
 - using the feedback to determine what steps can be taken to improve any weaknesses
 - how the impact of the work produced can have an impact on others
- ◆ Justifying selection of an appropriate software package for each specified task. Each specified task must have different levels of complexity based on the audience needs. The candidate must address the following issues:
 - accuracy and effectiveness of information
 - structured content to take account of different contexts
 - structured content to take account of different audiences
 - production of information in the right place at the right time

Two specified tasks which are designed for separate software application packages are required for Outcome 3 from:

- ◆ Spreadsheets
- ◆ Database

Mandatory content for Outcomes 1, 3 and 4

For Outcome 3 candidates are required to demonstrate that they can use every function detailed below, and for Outcome 1 candidates are required to be able to identify every function. The tasks for Outcome 4 do not include every function required for Outcomes 1 and 3.

The spreadsheet task must allow the candidate to perform two functions from each category in the following list:

- ◆ Analysis: filtering, goal seek, charting, trend analysis
- ◆ Functions: lookup, database

Additionally, the spreadsheet task must allow the candidate to perform at least three of the following:

- ◆ Creating templates
- ◆ Data validation
- ◆ Macros
- ◆ Protection: hiding rows and columns, locking the structure of a workbook
- ◆ Pivot tables

National Unit Specification: statement of standards (cont)

UNIT PC Passport: Working with IT Software — Spreadsheet and Database (SCQF level 6)

For Outcome 1, candidates should be aware of integrating spreadsheet data with other applications and be aware that data can be imported from external sources such as other spreadsheets, text files or databases. It is not necessary for candidates to perform tasks involving integration or importing data.

The database task must include:

- ◆ Creation of a form with appropriate form objects to allow data entry, including text box, list box and label.
- ◆ Creation of command buttons which when clicked will perform at least one of the following:
 - add a record
 - delete a record
 - go to the first record
 - go to the last record

Additionally, the database task must allow the candidate to perform one function from each of the following:

- ◆ Queries/searches — sorting and expressions
- ◆ Query types — update, append, delete
- ◆ Queries/searches using more than one table

For Outcome 1, candidates should be aware of integrating database data with other applications and be aware that data can be imported from external sources such as other databases, text files or spreadsheets. It is not necessary for candidates to perform tasks involving integration or importing data.

Mandatory Content for Outcome 2

- ◆ Relevance of different types of information produced by spreadsheet application software.
- ◆ Relevance of different types of information produced by database application software.
- ◆ Maintaining data integrity in a multiple-table database, including the use of keys in relationships.
- ◆ Data accuracy issues including:
 - Data redundancy
 - Data consistency
 - Completeness of data
- ◆ The Assessment Support Pack (ASP) for this Unit provides sample assessment materials including assessor checklists, practical tasks and an instrument of assessment for the knowledge and understanding of Outcomes 1 and 2. Centres wishing to develop their own assessments should refer to the Assessment Support Pack to ensure a comparable standard.

National Unit Specification: support notes

UNIT PC Passport: Working with IT Software — Spreadsheet and Database (SCQF level 6)

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

This Unit may be delivered as a stand-alone Unit or in combination with other Units as part of a group of Units making up an award, eg PC Passport: Advanced.

The overall aim of this Unit is to introduce the candidate to the complex features of spreadsheet and database application software. On completion of the Unit candidates should also be able to make an informed choice as to which software to use for a particular task. The Unit is designed to be task based and it is anticipated that most of the time will be spent on practical work, although some discussion work will be required.

This Unit maps to the National Occupational Standards (NOS) for IT Users, as specified by the Sector Skills Council (e-Skills UK). This Unit includes full content coverage of level 3 Areas of Competence in the following areas of NOS:

- ◆ Make Selective Use of IT
- ◆ Spreadsheet Software
- ◆ Database Software

Full assessment coverage of NOS is detailed in the Assessment Support Pack for this Unit. Further information regarding NOS can be found at www.e-skills.com.

Outcome 1 and 3

This Outcome covers the practical use of a range of application software. Exercises should be presented for the candidate to work through in order that they gain the practical skills necessary to demonstrate proficiency in the complex skills outlined below.

It is expected that candidates undertaking this Unit will possess a working knowledge of the software application packages covered within this Unit.

- ◆ Spreadsheets:

This section should allow the candidate to produce spreadsheets for analysing and interpreting complex data such as budgets and annual accounts. Candidates should be able to use appropriate tools to predict trends and understand how to produce information that communicates effectively by structuring the content to take account of different contexts and audience needs. Candidates should be able to use tools to automate routine tasks.

National Unit Specification: support notes

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◆ Database:

This section should allow the candidate to use multiple table databases. One-to-one and one-to-many relationships should be covered.

Candidates, at this level, should be aware of integration between packages. A word processing package could be used to illustrate how the data in a spreadsheet and database can be used in an integrated document. This could take the form of a mail merge or incorporating a database and spreadsheet into a document.

Outcome 2

This Outcome deals with issues relating to information produced by different software application packages and the appropriateness of the information produced for different audiences. The candidate will also be introduced to issues relating to data integrity and the accuracy of information.

Outcome 4

This Outcome deals with the candidate's ability to select an appropriate application package for a specified task. Candidates should be given a task and asked to say which of the two types of application software covered in Outcome 1 is most suitable for the specified task.

Two specified tasks which are designed for separate application packages are required for Outcome 4. These tasks must be completed by the candidate to achieve the Performance Criteria for Outcome 4.

The tasks will be aimed at different audiences, ie requiring different levels of complexity, and the candidate must describe how the different audience requirements will be met by the candidate's use of the application packages taking into account:

- ◆ accuracy and effectiveness of information
- ◆ structured content to take account of different contexts
- ◆ structured content to take account of different audiences
- ◆ production of information in the right place at the right time

On completion of the portfolio produced in Outcome 4 the candidate will provide a short report detailing the following:

- ◆ how the candidate can share the knowledge and skills gained in this Unit to help others
- ◆ using the feedback to determine what steps can be taken to improve any weaknesses
- ◆ how the impact of the work produced can have an impact on others

Candidates should be able to work out how to use IT effectively for technically complex tasks and purposes, taking account of their own and others skills and capabilities and the needs of the organisation. This will involve working out how to use IT for technically complex tasks (eg, doing a cost benefit analysis, reporting the results of a survey about clients' needs and preferences).

National Unit Specification: support notes (cont)

UNIT PC Passport: Working with IT Software — Spreadsheet and Database (SCQF level 6)

Candidates should be able to identify an appropriate application package for a specific task and explain why and how using the IT system and software was an appropriate way of carrying out the task.

Having completed the tasks for Outcome 4 candidates should then review the appropriateness and effectiveness of their decisions and actions taken about the choice and use of software tools and techniques, in relation to the task or purpose involved. This will involve the candidate identifying changes that could make similar tasks and purposes easier or more successful. Candidates should be given feedback from other people regarding their use of IT and should evaluate this feedback, giving and detailing steps that could be taken to improve any weaknesses. Candidates are required to comment on the impact of their own use of IT in their review.

In their review, candidates should demonstrate ability to use a wide range of correct terms for hardware and software. Candidates should be able to provide a simple explanation of IT terms that others may find difficult to understand.

This Outcome deals with the candidate's ability to produce a solution to a given task after they have decided which application package is most suitable for the task. This Outcome is designed to allow candidates to demonstrate skills from both Outcomes 1, 2 and 3. In Outcome 4 the candidate has gained the knowledge to make an informed decision and the candidate should apply the skills that he/she has acquired in Outcome 1 and 3 to produce a solution to the specified task.

GUIDANCE ON LEARNING AND TEACHING APPROACHES FOR THIS UNIT

This Unit has been designed to provide practical experience in the use of complex features of spreadsheets and database application software. It is anticipated that the vast majority of the time spent on this Unit will be on practical exercises. Candidates will acquire necessary knowledge through practical work.

Outcome 4 requires the candidate to make an informed decision as to what software package to use for a specific task. It is expected that the features of each application, and what each package can and cannot do, will be covered during the practical exercises of Outcomes 1 and 3.

Outcome 4 is designed to consolidate Outcomes 1 and 3, where the candidate will use the application package that they selected for the specific task in Outcome 4 and produce a solution to the task.

It is therefore expected that the teaching plan for the Unit will commence with Outcomes 1 and 3 where the candidate is introduced to each application package and the uses of each package. The candidate will then continue on to Outcome 2 where he/she will demonstrate an understanding of the needs of information for different audiences and the requirements to maintain data integrity. Finally in Outcome 4 the candidate is required to select an application package for a specific task and to justify that selection, the candidate is required to produce a solution to the specified task.

While teaching will necessarily focus on a specific product, candidates should be made aware that alternative packages are available and should be encouraged to explore these alternatives.

National Unit Specification: support notes (cont)

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The actual distribution of time between Outcomes is at the discretion of the centre, however one possible distribution of time is:

Outcomes 1 and 3	28 hours
Outcome 2	2 hours
Outcome 4	10 hours

The allocated timings allow for assessment and re-assessment where required.

OPPORTUNITIES FOR CORE SKILL DEVELOPMENT

This Unit involves candidates:

- ◆ Using a wide range of IT and carrying out searches to extract and present relevant information which may provide an opportunity to gather evidence towards aspects of the IT Core Skill.
- ◆ Making selective use of IT and evaluating their choice which may provide an opportunity to gather evidence towards aspects of the Problem Solving Core Skill.
- ◆ Reporting a number of aspects of the assessment which may provide an opportunity to gather evidence towards aspects of the Communications Core Skill.

GUIDANCE ON APPROACHES TO ASSESSMENT FOR THIS UNIT

It may be appropriate for some of the evidence for this Unit to be produced using e-assessment provided the national standard is applied and the conditions of assessment are consistent for all candidates. This may take the form of e-testing (for knowledge and understanding) and/or e-portfolios (for practical abilities).

If a centre is presenting Outcomes 1 and 2 of these assessments online the following assessment methods, where appropriate, may be selected:

- ◆ Multiple choice
- ◆ Drag and drop
- ◆ Multiple response
- ◆ Mix and match
- ◆ a combination of the above

It is expected that the questions will be of the multiple-choice variety. Centres may consider the use of alternative questions types, particularly if using Computer Assisted Assessment approaches. However, care should be taken that the questions are valid and at an appropriate level. The use of simple true/false question responses is unlikely to achieve this.

Evidence is required to demonstrate that candidates meet all the Performance Criteria for Outcome 1 and Outcome 2. It is recommended that centres assess knowledge and understanding as an objective test. Achievement can be decided by the use of a cut-off score. The possibility may arise where these questions are taken as an online assessment.

National Unit Specification: support notes (cont)

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The Evidence Requirements for Outcome 3 may be generated by on-going learning activities rather than one single assessment event.

The written and/or oral recorded evidence for Outcome 4 may take the form of a pro-forma where the candidate is required to answer specific questions, or be a report by the candidate justifying his/her selection.

A portfolio of work is necessary to provide evidence of Outcome 4. This may be in the form of hardcopies of the candidate's solution to the tasks specified or can form part of an e-portfolio.

There may be an opportunity to use information that has been searched for and selected in other Units that the candidate may have been undertaking, such as an internet Unit, that requires candidates finding and evaluating information.

The tasks may involve preparing and presenting the same information for different audiences. This may be a detailed formatted report for managers and a presentation summarising the main points for other staff.

If more than one assignment is set, the tasks may be counted across the assignments.

If this Unit is undertaken in the workplace there may be opportunities for candidates to gather evidence in day to day workplace activities.

Opportunities for the use of 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 e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all candidate evidence and that conditions of assessment as specified in the Evidence Requirements are met, regardless of the mode of gathering evidence. Further advice is available in *SQA Guidelines on Online Assessment for Further Education (AA1641, March 2003)*, *SQA Guidelines on e-assessment for Schools (BD2625, June 2005)*.

DISABLED CANDIDATES AND/OR THOSE WITH 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)*.

National Unit Specification: statement of standards (cont)

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History of changes:

Version	Description of change	Date
02	Evidence Requirements clarified and/or details of NOS mapping inserted	10/08/2010