SVQ for IT Users (ITQ) — level 2 (SCQF level 5)

F9C5 04: Database Software 2

4 SCQF credit points at SCQF level 5

Description: This is the ability to use a software application designed to organise and store structured information and generate reports.

Outcome **On completion of this Unit the candidate should be able to:**	Skills and Techniques	Knowledge and Understanding
1 Create and modify non-relational database tables.	1 Create and **modify database tables** using a range of field types. 2 Respond appropriately to **problems with database tables**. 3 Use database tools and techniques to ensure data integrity is maintained.	1 Identify the components of a **database design**. 2 Describe the **field characteristics** for the data required. 3 Describe ways to maintain **data integrity**.
2 Enter, edit and organise structured information in a database.	1 Create forms to **enter, edit and organise data** in a database. 2 Select and use appropriate tools and techniques to **format data entry forms**. 3 **Check data entry** meets needs, using IT tools and making corrections as necessary. 4 Respond appropriately to **data entry errors**.	
3 Use database software tools to run queries and produce reports.	1 Create and run **database queries** using multiple criteria to display or amend selected data. 2 Plan and produce **database reports** from a single table non-relational database. 3 Select and use appropriate tools and techniques to **format database reports**. 4 **Check reports** meet needs, using IT tools and making corrections as necessary.	

Note: The **emboldened** items are exemplified in the Support Notes.

Evidence Requirements

Completion of a portfolio (manual, electronic or combination) to cover all of the Skills and Techniques and Knowledge and Understanding points stated above. The evidence generated should adhere to the Assessment Strategy for this award and encompass a range of evidence types.

NB: It is possible to achieve this Unit by Accreditation of Prior Achievement (APA), however, the relevant evidence must be referenced within the portfolio.

General information

This Unit equates to NOS (National Occupational Standards for IT Users 2009) code DB: Database Software level 2. It has a stated number of SCQF credit points = 4 at SCQF level 5.

Support Notes

Summary

A SCQF level 5 (ITQ level 2) user can select and use intermediate database software tools and techniques to:

- enter information into databases, that is at times non-routine or unfamiliar
- retrieve information by creating queries using multiple selection criteria
- produce reports by setting up menus or short cuts

They will also be able to create and modify single table, non-relational databases. Any aspects that are unfamiliar may require support and advice from others.

Database tools, functions and techniques will be described as 'intermediate' because:

- the software tools and functions involved will at times be non-routine or unfamiliar
- the choice and use of input, manipulation and output techniques will need to take account of a number of factors or elements

Examples of context which illustrate typical activities which might be undertaken by users:

- typical 'more complex' reports may be about sales activities, order details or project management

Examples of content are given separately for highlighted text, where explanatory notes are required on terminology in the Outcomes, and do not form part of the standards. Such examples are not meant to form a prescriptive list for the purposes of assessment but rather to amplify and interpret the generic terms used in the Performance Criteria in the light of current usage of ICT systems and software. These examples are subject to change as new tools and techniques become commonplace and older ones drift out of use.

The examples given below are indicative of the learning content and are not intended to form a prescriptive list for the purpose of assessment.

Outcome 1

Database design: What types of information are stored, use of data entry form, routine queries, how data is structured in a single table non-relational database; use of indexes and key field to organise data.

Data integrity: Unique not null primary key; field characteristics; data validation; consistency, completeness, accuracy; Effect of malicious or accidental alteration. Methods for maintaining integrity of existing data in a single table non-relational database, how field characteristics contribute to data validation.

Modify database table: Add/amend/delete field; field characteristics.

Field types: Data type, field name, field size, format, validation; primary key.

Problems with database tables: Redundant data, duplication, table structure, field characteristics and validation; sources of help.

Outcome 2

Enter, edit and organise data: Select and update fields, create new records, locate and amend records; using wildcards, search operators; *error checking; data validation*.

Format data entry forms: Field characteristics and layout, tables, colour, lookups.

Check data entry: Spell check, format, accuracy, consistency, *completeness, validity, security*.

Data entry errors: Due to field size, data type, validation checks; using help; *deal with data that does not fit parameters, alerts, reminders; problems with forms*.

Outcome 3

Database queries: Alphanumeric sort, filter, single criteria, *multiple criteria; save queries and output.*

Database reports: Using menus, wizards or shortcuts*; selected fields; selected records*.

Formatting database reports: Data fields; page and section layout; add text or images; adjust page setup for printing.

Check reports: Completeness, accuracy, security, sorting, formatting, layout.

Guidance on examples of evidence

Typical examples of evidence for Outcomes 1–3

Product evidence in the form of listings, reports, screenshots including queries and reports on sales activities, order details or project management. These would include the planning, creation and editing of database tables to meet specific requirements.

Knowledge test using multiple-choice questions to measure competence in Knowledge and Understanding sections for all Outcomes. Written or verbal knowledge responses, candidate statements.

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 whether any reasonable adjustments may be required. Further advice can be found on our website **www.sqa.org.uk/assessmentarrangements**