OCR
Oxford Cambridge and RSA

Unit Title:	**Database software**
OCR unit number:	20
Level:	3
Credit value:	6
Guided learning hours:	45
Unit reference number:	T/502/4556

Unit purpose and aim

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

This unit is about selecting and using advanced database software tools and techniques efficiently to:

• enter complex information into databases;

• retrieve information by creating queries using multiple selection criteria; and

• produce reports by setting up menus or short cuts.

They will also be able to design, create and interrogate multiple-table relational databases.

Database tools, functions and techniques will be defined as advanced because:

• the software tools and functions involved will be complex and at times require new learning, which will involve having the idea that there may be a tool or function to do something (e.g. improve efficiency or create an effect), exploring technical support, self-teaching and applying; and

• the input, manipulation and output techniques involved will be complex, which will involve research, identification and application.

Learning Outcomes	Assessment Criteria	Examples
The learner will:	The learner can:	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, how relationships are established in a multiple-table database, how data is structured in a multiple-table database, what logical operators are and how to use them; schema
1 Plan, create and modify relational database tables to meet requirements	1.1. Explain how a relational database design enables data to be organised and queried	
	1.2. Plan and create multiple tables for data entry with appropriate fields and properties	
	1.3. Set up and modify relationships between database tables	
	1.4. Explain why and how to maintain data integrity	Field characteristics: Data type,

Learning Outcomes	Assessment Criteria	Examples
	1.5. Respond appropriately to problems with database tables 1.6. Use database tools and techniques to ensure data integrity is maintained	field name, field size, field format, validation; primary and secondary keys; lookup tables Relationships between database tables: One to one; one to many; many to many 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 data in a multiple table database; referential integrity, foreign keys Problems with database tables: Redundant data, duplication, table structure, field characteristics and validation; sources of help; access control, data type; indexing; analytical tools
2 Enter, edit and organise structured information in a database	2.1 Design and create forms to access, enter, edit and organise data in a database 2.2 Select and use appropriate tools and techniques to format data entry forms 2.3 Check data entry meets needs, using IT tools and making corrections as necessary 2.4 Respond appropriately to data entry errors	Enter, edit and organise data: Select and update fields, create new records, locate and amend records; using wildcards, search operators Format data entry forms: Field characteristics and layout, tables, colour, lookups, styles Check data entry: Spell check, format, accuracy, consistency, completeness, validity, security, fitness for purpose 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
3 Use database software tools to create, edit and run data queries and	3.1 Explain how to select, generate and output information from queries	Database queries: Alphanumeric sort, filter, single criteria, multiple criteria; save

Learning Outcomes	Assessment Criteria	Examples
produce reports	according to requirements 3.2 Create and run database queries to display, amend or calculate selected data 3.3 Plan and produce database reports from a multiple-table relational database 3.4 Select and use appropriate tools and techniques to format database reports 3.5 Check reports meet needs, using IT tools and making corrections as necessary	queries and output, cross-tabulate data; queries to update and amend data 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; styles Check data entry: Completeness, accuracy, security, sorting, formatting, layout, fitness for purpose

Assessment

All ITQ units may be assessed using any method, or combination of methods, which clearly demonstrates that the learning outcomes and assessment criteria have been met. Assessments must also take into account the additional information provided in the unit Purpose and Aims relating to the level of demand of:

- the activity, task, problem or question and the context in which it is set;

- the information input and output type and structure involved; and

- the IT tools, techniques or functions to be used.

See the Assessment and postal moderation section of the ITQ Centre Handbook.

Evidence requirements

Candidates must complete the Evidence Checklist for this unit without any gaps. Individual unit checklists are available to download from the qualification webpage (see forms).

Guidance on assessment and evidence requirements

Please refer to the ITQ centre handbook on our webpage.

Details of relationship between the unit and national occupational standards

This unit maps fully to competences outlined in IT User National Occupational Standards version 3 (2009).