



Unit Title:	Data Modelling
OCR unit number	17
Level:	2
Credit value:	6
Guided learning hours:	45
Unit reference number;	A/601/3200

Candidates undertaking this unit must complete real work activities in a work environment. Simulation is only allowed in exceptional circumstances (please refer to the centre handbook for further details).

Unit purpose and aim

This unit covers the use of simple logical data modelling techniques in the design of data structures for computer systems.

Learning Outcomes	Assessment Criteria	Knowledge, understanding and skills
<p>The Learner will:</p> <p>1 Know the basic concepts of logical data modelling</p>	<p>The Learner can:</p> <p>1.1 Identify entities, attributes and relationships</p> <p>1.2 State the objectives of data normalisation</p> <p>1.3 State the purpose of keys</p>	<p>Candidates must have an understanding of:</p> <ul style="list-style-type: none"> • entities • attributes • relationships <p>Candidates must be able to identify entities, attributes and relationships for a given design.</p> <p>Candidates must understand the purpose of data normalisation and be able to apply basic normalisation principles to their design</p> <p>Candidates must understand:</p> <ul style="list-style-type: none"> • candidate Keys • primary Keys • foreign Keys <p>Candidates must be able to identify, from a range of candidate keys, an appropriate primary and foreign keys for a given design</p>

Learning Outcomes	Assessment Criteria	Knowledge, understanding and skills
2 Use simple data modelling techniques to create logical data models	2.1 Identify and name entities, assigning the correct type and size 2.2 Identify entity relationships 2.3 Use a standard notation to create a logical data model	Candidates must know how to enter entities and assign appropriate types and sizes Candidates must have an understanding of one-to-many and many-to-many relationships Candidates must understand how to create an EAR (Entity-Attribute-Relationship) diagram for a given scenario based on an existing set of relations

Assessment

Candidates undertaking this unit must complete real work activities in order to produce evidence to demonstrate they are occupationally competent. Real work is where the candidate is engaged in activities that contribute to the aims of the organisation by whom they are employed, for example in paid employment or working in a voluntary capacity.

Simulation is only allowed for aspects of units when a candidate is required to complete a work activity that does not occur on a regular basis and therefore opportunities to complete a particular work activity do not easily arise. When simulation is used, assessors must be confident that the simulation replicates the workplace to such an extent that candidates will be able to fully transfer their occupational competence to the workplace and real situations.

Internal quality assurance personnel must agree the use of simulated activities before they take place and must sample all evidence produced through simulated activities.

It is the assessor's role to satisfy themselves that evidence is available for all performance, knowledge and evidence requirements before they can decide that a candidate has finished a unit. Where performance and knowledge requirements allow evidence to be generated by other methods, for example by questioning the candidate, assessors must be satisfied that the candidate will be competent under these conditions or in these types of situations in the workplace in the future. Evidence of questions must include a written account of the question and the candidate's response. Observations and/or witness testimonies must be detailed and put the evidence into context ie the purpose of the work etc.

All of the assessment criteria in the unit must be achieved and clearly evidenced in the submitted work, which is externally assessed by OCR.

Evidence for the knowledge must be explicitly presented and not implied through other forms of evidence.

Evidence requirements

All aspects of the assessment criteria must be covered and evidence must be available that shows where and how the assessment criteria have been achieved.

Assessment Criterion 1

Candidates are required to provide a definition and description of:

- an entity
- an attribute
- a relationship
- data normalisation and in particular its value in data integrity

Using a given design candidates are required to identify:

- entities
- attributes
- relationships

Candidates should describe the purposes of keys and identify the uses of:

- candidate keys
- primary keys
- foreign keys

Assessment Criterion 2

For a given scenario candidates should create logical data models (EARs) by identifying:

- entities, their types and sizes
- attributes
- relationships
- appropriate primary keys and foreign keys

Creating EAR (Entity-Attribute-Relationship) diagram clearly identifying one- to-many/many-to-many relationships.

Candidates are encouraged to choose activities which will allow them to cover all or a majority of the criteria at one time. It is not necessary to use different activities for each element of the criterion.

Guidance on assessment and evidence requirements

Evidence can reflect how the candidate carried out the process or it can be the product of a candidate's work or a product relating to the candidate's competence.

For example: The process that the candidate carries out could be recorded in a detailed personal statement or witness testimony. It is the assessor's responsibility to make sure that the evidence a candidate submits for assessment meets the requirements of the unit.

Questioning the candidate is normally an ongoing part of the assessment process, and is necessary to:

- test a candidate's knowledge of facts and procedures
- check if a candidate understands principles and theories *and*
- collect information on the type and purpose of the processes a candidate has gone through.
- candidate responses must be recorded

It is difficult to give a detailed answer to how much evidence is required as it depends on the type of evidence collected and the judgement of assessors. The main principles, however, are as follows: for a candidate to be judged competent in a unit, the evidence presented must satisfy:

- all the items listed, in the section ‘Learning Outcomes’
- all the areas in the section ‘Assessment Criteria’

The quality and breadth of evidence provided should determine whether an assessor is confident that a candidate is competent or not. Assessors must be convinced that candidates working on their own can work independently to the required standard.

Additional information

For further information regarding administration for this qualification, please refer to the OCR document ‘*Admin Guide: Vocational Qualifications*’ (A850) on the OCR website www.ocr.org.uk .