Australian Government

Department of Education, Employment and Workplace Relations

BSBITA401A Design databases

Revision Number: 1

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Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to design and develop a database (including queries, forms and reports) to meet a defined need using existing data. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement.

Application of the Unit

Application of the unit	This unit applies to individuals employed in a range of work environments who create databases to store and retrieve data using commercially available database software. They may provide administrative support within an enterprise, or may be independently responsible for designing databases relevant to their own work roles.

Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Design database	1.1. Review ***organisational and task requirements*** to confirm ***scope and functionality of database*** design, including data redundancy 1.2. Develop a logical data model to identify and classify data into types 1.3. Select appropriate ***software*** according to organisational and task requirements and required scope and functionality of database 1.4. Confirm database design with ***appropriate person***
2. Develop database	2.1. Set field attributes according to data type and link databases by a common field in accordance with software procedures 2.2. Identify primary key to uniquely identify data 2.3. Identify foreign keys to establish associations between data 2.4. Use ***software functions*** and ***formulae*** to meet organisational and task requirements 2.5. Create password and access system according to organisational and task requirements
3. Develop queries, forms and reports	3.1. Develop queries as required by organisational and task requirements 3.2. Develop input screens or forms in order to access required data 3.3. Develop reports according to organisational and task requirements
4. Test and finalise database	4.1. Populate database with sample dataset for testing 4.2. Assess and document effectiveness of data relationships, queries forms and reports 4.3. Address any errors in database design 4.4. ***Name and store*** database in accordance with organisational requirements and exit the application without data loss or damage 4.5. Confirm database readiness with appropriate person

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- literacy skills to interpret and evaluate the purposes and features of databases
- numeracy skills to utilise software functions and formulae, and to establish data relationships and queries
- planning and organising skills to establish database design
- problem-solving skills to address inconsistencies in database design and data relationships.

Required knowledge

- advanced functions of database software applications
- impact of formatting and design on the presentation and readability of data
- key provisions of relevant legislation from all forms of government, standards and codes that may affect aspects of business operations, such as:
  - anti-discrimination legislation
  - ethical principles
  - codes of practice
  - privacy laws
  - occupational health and safety.

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the following is essential: • producing a database containing a minimum of three tables and incorporating queries, reports and forms • knowledge of advanced functions of database software app.
Context of and specific resources for assessment	Assessment must ensure: • access to office equipment and resources • access to sample data.
Method of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • direct questioning combined with review of portfolios of evidence and third party workplace reports of on-the-job performance by the candidate • review of databasedesign • review of database testing • demonstration of techniques.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • IT use units • other IT analysis and design units.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	
Organisational and task requirements may include:	• business requirements • consistent corporate image, including colour schemes and company logo • established guidelines and procedures for data usage • existing database templates • final output requirements for data • house styles • observing copyright legislation • organisation name, time, date, document title, filename or other fields in headers and footers • technical operating environment and platform
Scope and functionality of database may include:	• concurrency of access requirements • data relationships • data structures • forms • queries • reports • screens • security features • table relationships
Software may include:	• commercial software applications • organisational specific software
Appropriate person may include:	• clients • colleagues • supervisors
Software functions may include:	• adding, deleting, moving, re-labelling fields • altering field widths • calculations, formula • data protection • field definitions and attributes • formatting fields

RANGE STATEMENT	

	• formatting text
	• headers and footers
	• inserting and deleting blank lines and spaces
	• macros
	  • append
	  • delete
	  • edit
	  • exit
	  • list
	  • print
	  • query
	  • report
	• repeating (if available)
	• table, form and report wizards

Formulae may include:	• formulae • addition • average • combinations of formulae • count • division • maximum • minimum • multiplication • subtraction • sum
Naming and storage may include:	• authorised access • filing locations • organisational policy for backing up files • organisational policy for filing hard copies of spreadsheets • security • storage in folders and sub-folders • storage on disc drives, CD-ROM, USBs, tape or server back-up

Unit Sector(s)

Unit sector	

Competency field

Competency field	Information and Communications Technology - IT Analysis and Design

Co-requisite units

Co-requisite units		