

Domain	WEB DEVELOPMENT	UNIT ID: 2312
Title:	Demonstrate an understanding of database concepts	
Level: 4		Credits: 10

Purpose

This unit standard is intended for those demonstrate an understanding of database concepts. .People credited with this unit standard are able to demonstrate understanding of database system concepts and architecture, demonstrate an understanding of modelling data in the organization, perform planning and designing of rational databases and explain functionality of Structured Query Language (SQL) on databases.

This unit standard is intended for those who work as web developers.

Special Notes

1. Entry information:

Prerequisite:

- None

2. This unit standard is to be delivered and assessed in the context of information and communication technology.
3. Assessment evidence may be collected from a real or a simulated workplace in which ICT operations are carried out.
4. Tools and equipment may include but are not limited to computer, external devices, storage devices and basic computer applications.
5. Glossary of term
 - *'Operating System'* the low-level software that supports a computer's basic functions, such as scheduling tasks and controlling peripherals.
6. Performance of all elements in this unit standard must comply with industry standards.
7. Regulations and legislation relevant to this unit standard include the following:
 - Labour Act 2007(Act No 11, 2007).
 - Regulations relating to the health and safety of employees at work under schedule 1 (2) of the Labour Act No.11 of 2007 and all subsequent amendments.

Quality Assurance Requirements

This unit standard and others within this sub-field may be awarded by institutions which meet the accreditation requirements set by the Namibia Qualifications Authority and the Namibia Training Authority and which comply with the national assessment and moderation requirements. Details of specific accreditation requirements and the national assessment arrangements are available from the Namibia Qualifications Authority on www.namqa.org and the Namibia Training Authority on www.nta.com.na

Elements and Performance Criteria

Range

Database components may include but not limited to tables, columns, rows, schema.etc

Element 1: Demonstrate understanding of database system concepts and architecture

Performance Criteria

- 1.1 Database is defined.
- 1.2 Importance of databases is outlined.
- 1.3 Different types of databases are listed and explained.
- 1.4 Database components are listed and explained.
- 1.5 Describe database system development life cycle.
- 1.6 Database management systems are listed and explained.

Element 2: Demonstrate an understanding of Modelling Data in the Organization

Performance Criteria

- 2.1 Database tables are explained.
- 2.2 Database fields are explained.
- 2.3 Database rows and columns are explained.
- 2.4 Primary keys, foreign keys and relationships are explained.
- 2.5 Datatypes of fields are explained.
- 2.6 Importance of data modeling is explained.
- 2.7 Names and definitions for entities, relationships, and attributes are applied.

2.8 Types of attributes, entities, relationships, and cardinalities are modelled.

Element 3: Perform planning and designing of Rational Databases

Performance Criteria

- 3.1 Entity Relation Diagram (ERD) is explained and illustrated.
- 3.2 Normalization is explained and illustrated.
- 3.3 Database tables are designed as per instruction.
- 3.4 Fields and keys are designed as per instruction.
- 3.5 Many-to-many relationships are converted to associative entities.
- 3.6 Database designs are analyzed and verified as per instruction.

Element 4: Explain functionality of Structured Query Language (SQL) on databases

Performance Criteria

- 4.1 Structured Query Language (SQL) is defined.
- 4.2 History of Structured Query Language (SQL) is explained.
- 4.3 Importance of Structured Query Language (SQL) is explained in relation to databases manipulation.
- 4.4 Importance of Structured Query Language (SQL) is explained in relation to web development.

Registration Data

Subfield:	Information and Communication Technology
Date first registered:	30 July 2020
Date this version registered:	30 July 2020
Anticipated review:	2025
Body responsible for review:	Namibia Training Authority