

		Unit ID: 2282
Domain	TELECOMMUNICATION AND WIRELESS TECHNOLOGY	
Title:	Demonstrate an understanding of digital concepts and computer arithmetic	
Level: 4		Credits: 8

Purpose

This unit standard is intended for those demonstrate an understanding of digital concepts and computer arithmetic. People credited with this unit standard are able to demonstrate an understanding of number systems, demonstrate an understanding in computer codes, apply computer arithmetic using binary and demonstrate an understanding of boolean algebra and logic circuits.

This unit standard is intended for those who work in the telecommunication and wireless technology working environment.

Special Notes

1. Entry information:

Prerequisites:

- 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 telecommunication and wireless technology operations are carried out.

4. Tools and equipment may include but are not limited to computer, external devices, storage devices and other and basic computer applications.

5. Performance of all elements in this unit standard must comply with industry standards.

6. Regulations and legislation relevant to this unit standard include the following:

- Labour Act 2007(Act No 11, 2007).
- Regulations relating to the health & 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

Element 1: Demonstrate an understanding of Number Systems

Performance Criteria

- 1.1 Non-Positional number systems are explained.
- 1.2 Positional number systems are explained.
- 1.3 Conversion from one number system to another is performed.
- 1.4 Fractional numbers in the binary system are explained.

Element 2: Demonstrate an understanding of computer codes

Range

Computer codes may include but not limited to American Standard Code for Information Interchange (ASCII) and Binary Coded Decimal (BCD).

Performance Criteria

- 2.1 Binary Coded Decimal (BCD) code is explained.
- 2.2 Extended Binary Coded Decimal Interchange Code (EBCDIC) is explained.
- 2.3 American Standard Code for Information Interchange (ASCII) Code is explained.

Element 3: Apply Computer Arithmetic using binary

Performance Criteria

- 3.1 Binary operations are explained.
- 3.2 Binary addition is performed.
- 3.3 Binary subtraction is performed.
- 3.4 Binary multiplication is performed.

3.5 Binary division is performed.

Element 4: Demonstrate an understanding of boolean algebra and logic circuits

Performance Criteria

- 4.1 Boolean functions are explained.
- 4.2 Boolean algebra functions are performed.
- 4.3 Logic AND Gate is performed.
- 4.4 Logic OR Gate is performed.
- 4.5 Logic NOT Gate is performed.
- 4.6 Logic NAND Gate is performed.
- 4.7 Logic NOR Gate is performed.

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