

Domain**ELECTRONICS****Title: Analyse AC and DC electrical circuits II****Level: 3****Credits: 10****Purpose**

This unit standard specifies the competencies required to Analyse AC and DC electrical circuits. This unit standard is intended for those who work in electronics industry.

Special Notes

1. Entry information

Prerequisite

- *Unit E01 - Apply health and safety rules and regulations in electronics workplace*
- *Unit E02 - Plan and organise work in electronic work environment*
- *Unit E08 - Analyse AC and DC electrical circuits I*

2. Assessment evidence may be collected from a real or a simulated workplace in which electronics operations are carried out.

3. To demonstrate competence, minimum evidence of analysing AC and DC electrical circuits (at least 50 percent of all areas in the element) is required

4. Glossary of terms:

- IEC 60617- International Electro-technical Commission
- IEE- Institute of Electrical and Electronics Engineers.

5. All circuit analyses methods include calculations, measurements and simulations.

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, No. 11, 2007.
- IEC 60617 standards, standard for electrical components symbols.
- Occupational Health and Safety Regulations No. 18, 1997 and all subsequent amendments.

Quality Assurance Requirements

Quality Assurance Requirements

This unit standard and others within this subfield 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 and the Namibia Training Authority on www.nta.com.na.

Elements and Performance Criteria

Element 1: Analyse AC and DC electrical circuits

Range

The calculations include application of advanced circuit analysis methods e.g. Nodal and Mesh analysis, Star–Delta circuit transformation.

Performance Criteria

- 1.1 Parameters for complex electrical circuits are calculated using advanced methods.
- 1.2 Measurements are performed to determine the functionality of electrical circuits using appropriate instruments.
- 1.3 Measurement and/or calculated results are recorded in SI units and interpreted.
- 1.4 Electrical circuits are sketched, labelled and captioned using appropriate symbols in accordance with IEEE/IEC standards.
- 1.5 Electrical circuits are captured in simulation software and simulated.
- 1.6 Measurement, calculation and simulation results are recorded in SI units and interpreted.

Registration Data

Subfield:	Electrical Engineering
Date first registered:	
Date this version registered:	
Anticipated review:	
Body responsible for review:	Namibia Training Authority