

**National Vocational Certificate in Electrical Engineering (Instrumentation and Control)
(Level 2)**

NQF Level of qualification: 2

Total credits available: 106

Total credits required: 106

	Compulsory	Elective
Level 1 credits available	44	-
Level 2 credits available	47	-
Level 3 credits available	15	-
Minimum totals required	106	-

Registration date: 13 June 2019

Scheduled review date: 2024

Body responsible for the qualification: Namibia Training Authority through the Mining Quarrying, Construction, Electricity, Gas, Water Supply and Sanitation Industry Skills Committee.

Other bodies whose unit standards are included in the qualification: None

1 PURPOSE

This qualification recognises people who have the competencies required for working in the field of instrumentation and control. It is awarded to people who have demonstrated the skills and knowledge required to plan and organise work; apply and maintain safety rules in instrumentation and control workplace environment; identify, select and use instrumentation hand tools; demonstrate knowledge of basic electronic components and circuits; select, use and maintain power tools and equipment; demonstrate an understanding of pneumatics and hydraulics principles; carry out soldering and de-soldering tasks; demonstrate knowledge of level measurement, pressure measurement, temperature measurement, flow measurement, mass, weight and density measurement.

They further have a good understanding of interact with others in a workplace environment; use workplace documents; apply knowledge of pre-basic mathematics, engineering science and engineering drawing in different context; provide basic first aid; demonstrate basic awareness of HIV and AIDS; demonstrate basic knowledge of workplace health and safety; apply basic entrepreneurship skills and apply fundamental computer literacy skills.

The entry requirement for this qualification is an ordinary level certificate or equivalent qualification and the ability to demonstrate basic communication skills in the English language and numeracy.

This qualification leads vertically to the National Vocational Certificate in Electrical Engineering (Instrumentation and Control) (Level 3).

2 REGULATIONS FOR THE QUALIFICATION

2.1 Summary of qualification requirements

This qualification will be awarded to people who are credited with a minimum of **106** credits and have met the requirements of both the compulsory sections, as well as all requirements for Workplace Integrated Learning (WIL) as laid out in the National Policy On Work-Integrated Learning for Technical and Vocational Education and Training (TVET).

2.2 Detailed qualification requirements

Compulsory

All the unit standards listed below are required.

FIELD: Manufacturing, Engineering and Technology

Subfield: Electrical Engineering

Domain: Instrumentation and Control

Unit No.	Unit Standard Title	Level	Credit
2039	Plan and organise work in Instrumentation and Control work environment	1	2
2040	Apply and maintain safety rules in an Instrumentation and Control workplace environment	2	6
2041	Use and maintain instrumentation hand tools	2	4
2042	Use and maintain power tools and equipment	2	4
2043	Demonstrate knowledge of basic electronic components and circuits	2	3
2044	Demonstrate knowledge of level measurement	2	2
2045	Demonstrate knowledge of pressure measurement	2	2
2046	Demonstrate knowledge of temperature measurement	2	2
2047	Demonstrate knowledge of flow measurement	2	2
2048	Demonstrate knowledge of mass, weight and density measurement	2	2

AND

FIELD: Manufacturing, Engineering and Technology

Subfield: Electrical Engineering

Domain: Electronics

2017	Carry out soldering and de-soldering tasks	2	2
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AND**FIELD:** Manufacturing, Engineering and Technology**Subfield:** Mechanical Engineering**Domain:** Fitting and Machining

2086	Demonstrate an understanding of pneumatic and hydraulics principles	3	15
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AND**FIELD:** Health Sciences and Social Services**Subfield:** Core Health**Domain:** First Aid

Unit ID	Unit Standard Title	Level	Credits
843	Provide Basic First Aid	1	3

AND**FIELD:** Health Sciences and Social Services**Subfield:** Core Health**Domain:** HIV and AIDS Awareness

Unit ID	Unit Standard Title	Level	Credits
1155	Demonstrate basic awareness of HIV and AIDS	1	6

AND**FIELD:** Physical, Mathematical and Computer Sciences**Subfield:** Information Communication Technology**Domain:** Computing Fundamentals

Unit ID	Unit Standard Title	Level	Credits
1156	Apply fundamental computer literacy skills	1	8

AND**FIELD:** Health Sciences and Social Services**Subfield:** Preventive Health**Domain:** Occupational Health and Safety

Unit ID	Unit Standard Title	Level	Credits
1157	Demonstrate basic knowledge of workplace health and safety	1	7

AND

FIELD: Communication Studies and Language

Subfield: Communication Skills

Domain: Foundation Communication Skills

Unit ID	Unit Standard Title	Level	Credits
1150	Apply basic reading skills in a workplace environment	1	3
1151	Interact with others in a workplace environment	1	5
1152	Use workplace documents	1	5

AND

FIELD: Business, Commerce and Management Studies

Subfield: Business Development

Domain: Entrepreneurship

Unit ID	Unit Standard Title	Level	Credits
1158	Apply basic entrepreneurship skills	1	5

AND

FIELD: Physical, Mathematical and Computer Sciences

Subfield: Numeracy

Domain: Foundation Numeracy Skills

Unit ID	Unit Standard Title	Level	Credits
890	Apply knowledge of pre-basic mathematics in different context	2	6

AND

FIELD: Manufacturing, Engineering and Technology

Subfield: Foundational Engineering Science and Engineering Drawing

Domain: Foundation Engineering Science and Drawing skills

Unit ID	Unit Standard Title	Level	Credits
893	Apply knowledge of basic engineering science in different contexts	2	6
900	Apply basic knowledge of engineering drawing in different contexts	2	6

3 CREDIT RECOGNITION AND TRANSFER ARRANGEMENTS

Credits for any version of a unit standard of the same identification number will be recognised in the award of this qualification.

4 SPECIAL ARRANGEMENTS

4.1 Providers seeking registration and/or accreditation to deliver this qualification must meet the following special arrangements.

4.1.1 This qualification will be offered to trainees ***either*** including a 6 months period of **industrial/job attachment**, ***or*** as an **apprenticeship scheme** of a duration determined and agreed upon by the employer and the training provider on a ratio of 70/30 (70% at workplace and 30% at Training institution) basis.

Industrial/job attachment is defined as a period in a workplace setting where a trainee obtains structured practical experience in a specific occupation in order to complement competencies acquired during training at a technical vocational training provider (TVTP).

Apprenticeship refers to the system of work integrated learning, where an apprentice is employed by a company on contractual basis, earning a monthly salary, learning and working side-by-side with an experienced mentor. In this case the employer must be an NTA approved entity (company) to register apprentices and has to identify a suitable training provider to provide the apprentice with the opportunity to gain skills and knowledge from theoretical training.

Employers and training providers are encouraged to consult the **National Policy On Work-Integrated Learning (WIL) for Technical and Vocational Education and Training (TVET) Sector** for further details on WIL implementation.

4.1.2 Providers involved in the assessment of this qualification and the associated unit standards must **comply with the national assessment framework** for the TVET system up to and including level 5 of the National Qualifications Framework. Assessment will include performance and achievement assessment acquired through work integrated learning periods. Assessment arrangements apply to all occupations and industries which are encompassed in the technical vocational education and training sector.

4.1.3 Providers of this qualification and the associated unit standards must be registered and/or accredited.

4.1.4 Providers of this qualification and their associated unit standards must have access to all equipment and facilities detailed in the tools and equipment list of the relevant training program.

4.2 Competencies covered in this qualification may be assessed through Recognition of Prior Learning (RPL).

4.3 Further relevant information and documentation may be accessed through:

Namibia Training Authority
Rand Street
Khomasdal
Namibia
Telephone number: 061 207 8550
Facsimile number: 061 207 8551

5 TRANSITION ARRANGEMENTS

5.1 Non National Qualifications Framework transition

None

5.2 National Qualifications Framework transition

This is the first version of this qualification