

National Vocational Certificate in Air conditioning and Refrigeration (Level 2)
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Level of qualification: 2

Total credits available: 110

Total credits required: 110

	Compulsory	Elective
Level 2 credits available	110	-
Minimum totals required	110	-

Registration date: 28 March 2018

Scheduled review date: 2023

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 recognizes people who have the competencies required for performing air conditioning and refrigeration tasks. It is awarded to people who have demonstrated knowledge of Air Conditioning and Refrigeration related science, introduction to absorption refrigeration system. It is also awarded to people who have demonstrated the skills and knowledge required to evacuate and charge air conditioning and refrigeration systems; communicate in an air conditioning and refrigeration mechanic work environment; apply basic oxy-acetylene welding techniques used in air conditioning and refrigeration mechanics; apply basic manual metal arc welding techniques used in air conditioning and refrigeration; draw and interpret electrical wiring; carry out single circuit wiring; replace refrigeration components; demonstrate knowledge of physics related to air conditioning and refrigeration; service air conditioners; and troubleshoot a domestic refrigerator as well as installation of pipe work for air conditioning and refrigeration systems..

This qualification is designed to be accessible and flexible. The entry requirement is the National Vocational Certificate in Air conditioning and Refrigeration (Level 1) or equivalent.

The main focus is on the outcomes of this qualification, not the how, when and where learning occurred. Some people applying to do this qualification may currently be competent in one or more of the learning outcomes and should then be given the opportunity to apply for recognition of prior learning.

This qualification articulates to the National Vocational Certificate in Air conditioning and Refrigeration (Level 3).

2 Regulations for the qualification

2.1 Summary of qualification requirements

This qualification will be awarded to people who are credited with **110** credits and have met the requirements of the compulsory sections, as well as all requirements for Workplace Integrated Learning (WIL) as laid out in the National Policy On Work-Integrated Learning (WIL) 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: Mechanical Engineering
Domain: Air conditioning and Refrigeration

Unit No.	Unit Standard Title	Level	Credits
1707	Demonstrate the knowledge of Air conditioning and Refrigeration related science	2	6
1708	Demonstrate knowledge of absorption Refrigeration System	2	10
568	Communicate in an air conditioning and refrigeration mechanical work environment	2	2
571	Demonstrate knowledge of refrigerants and basic refrigeration cycle	2	6
574	Evacuate and charge Air conditioning and Refrigeration systems	2	4
575	Apply basic oxy-acetylene welding techniques used in air conditioning and refrigeration mechanics	2	5
576	Apply basic manual metal arc welding techniques used in air conditioning and refrigeration mechanics	2	4
577	Draw and interpret electrical wiring as part of air conditioning and refrigeration operations	2	6
578	Carry out domestic circuit wiring in Air-conditioning and Refrigeration.	2	2
579	Replace refrigeration system components	2	10
580	Demonstrate knowledge of physics related to air conditioning and refrigeration	2	6
581	Service air conditioners	2	11
584	Apply knowledge of electrical and electronics principles in air conditioning and refrigeration	2	6
585	Troubleshoot a domestic refrigerator	2	2

586	Install of pipe work for Air - conditioning and Refrigeration systems	2	8
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AND

FIELD: Business, Commerce and Management Studies
Subfield: Business Development
Domain: Entrepreneurship

Unit ID	Unit Standard Title	Level	Credits
732	Demonstrate knowledge of the requirements of entrepreneurs	2	4

AND

FIELD: Engineering and Technology
Subfield: Mechanical Engineering
Domain: Foundational Engineering Science, Pre-basic mathematic and engineering drawing

Unit ID	Unit Standard Title	Level	Credits
890	Apply knowledge of pre-basic mathematics indifferent context	2	6
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
10 Rand Street
Khomasdal
Namibia
Telephone number: 061 207 8550
Facsimile number: 061 207 8551

5 Transitions arrangements

5.1 Non National Qualifications Framework transition

None.

5.2 National Qualifications Framework transition

Version 2

This qualification was updated and issued as Version 2 in 2018.

Version 1 of this qualification will not be awarded as from 31 December 2020. People currently working towards Version 1 of this qualification are advised to transfer their existing credit awards to this version of the qualification at any time during 2019 and beyond.

People holding the earlier version of this qualification will continue to have their qualification recognised with the Air Conditioning and Refrigeration industry in terms of meeting relevant career and further learning entry and/or progression requirements.