

National Vocational Certificate in Metallurgy (Level 2) (Operator Attendant)

Level of Qualification: 2

Credit total: 118–148 (depending on strand and elective)

	Compulsory Set	Elective Set A	Elective Set B
level 2 credits available	67	34	21
level 3 credits available	-	6	40
minimum totals required	67	17	5 - 20

	Mineral Processing Strand		
	Compulsory Set	Elective	
		Set A	Set B
level 1 credits available	-	2	-
level 2 credits available	20	28	7
minimum totals required	20	14	3 - 4

	Hydrometallurgical Processing Strand		
	Compulsory Set	Elective	
		Set A	Set B
level 1 credits available	-	4	-
level 2 credits available	23	12	12
level 3 credits available	-	13	-
minimum totals required	23	12	6

	Pyrometallurgical Processing Strand		
	Compulsory Set	Elective	
		Set A	Set B
level 2 credits available	20	7	12
level 3 credits available	-	18	-
minimum totals required	20	7 - 18	2 - 6

Registration date: 28 September 2016

Scheduled review date: 2021

Body responsible for the qualification:

Namibia Training Authority (NTA) - Industry Skills Committee for Mining; Quarrying; Construction; Electricity, Gas and Water supply; and Sanitation (MQCEGWS)

Other bodies whose unit standards are included in the qualification:

Namibia Training Authority

1. Purpose

This Qualification has been developed to assist with the advancement of people across different industries in which metallurgical operations are carried out. The intention of this qualification is to assist;

- Those who have been in the workplace for a long time, by using the recognition of prior learning process to assess and recognise workplace skills acquired without the benefit of formal education and training;
- New entrants, by describing the learning outcomes required to participate effectively, e.g. in a structured workplace programme;
- Education and training providers, by providing guidance for the development of appropriate learning programmes and assessment documentation;
- Employers, by enabling skills gaps to be identified and addressed ensuring that productivity levels are increased and business objectives achieved.

Training programmes leading to the award of this qualification will address the on-going demand for qualified operator attendants in Namibia by equipping learners with the competencies required to carry out a moderate range of work activities in a metallurgical plant and eliminating or minimising risks to self and others by conducting safety checks of equipment and applying general hazard identification and risk assessment procedures. As a result, this qualification provides opportunities for paid employment acting as a reward for contributions to society by facilitating social and economic transformation, empowerment and general upliftment of the mining industry and country in general.

The strands of this qualification are designed to recognise the specialised skills in Mineral Processing, Hydrometallurgical Processing, and Pyrometallurgical Processing, enabling the qualification to be tailored to meet the demand of particular sections in metallurgical operations in the different mining industries.

Operator Attendants (Level 2) will require the appropriate driving license to obtain credits for ID 1018, 1093, and 1119 (elective set) in order to drive the respective vehicle on a public road.

This qualification is based on the assumption that people entering programmes of study leading towards the certificate have already demonstrated ability in fundamentals of metallurgical processing. Consequently, the National Vocational Certificate in Metallurgy (Level 1) (Foundation), or the demonstration of equivalent knowledge and skills, is a prerequisite for entry to this qualification.

This qualification represents a stage of progression to the different strands of the National Vocational Certificate in Metallurgy (Mineral Processing; Hydrometallurgical Processing; and/or Pyrometallurgical Processing) Level 3.

2. Regulations for the qualification

2.1 Summary of qualification requirements

This qualification will be awarded to people who are credited with:

- i. Requirements of the compulsory set and the elective sets A and B.
- ii. Requirements of one (1) of the following strand compulsory and strand elective sets A and B;
 - Mineral Processing,
 - Hydrometallurgical Processing, or
 - Pyrometallurgical Processing.

2.2 Detailed qualification requirements

Compulsory set

The following unit standards are required

FIELD: MANUFACTURING, ENGINEERING AND TECHNOLOGY

Subfield: Metallurgy

Domain: Metallurgical Processing - Core

Unit No.	Unit Standard Title	Level	Credits
1454	Conduct safety checks prior to equipment usage	2	2
1455	Handle reagents as part of metallurgical process operations	2	8
1470	Operate a personal computer	2	8
1474	Implement environmental initiatives as part of processing operations	2	4
1451	Work around operating equipment in a metallurgical plant	2	4
1452	Work around energy sources in a metallurgical plant	2	3
1453	Demonstrate knowledge of hazard identification and risk assessment procedures pertaining to processing operations	2	4
1456	Use and store engineering hand tools	2	2
1457	Operate small plant and equipment	2	8
1460	Operate and monitor valve systems	2	6
1464	Operate feeding system	2	2
1465	Handle waste material in a metallurgical plant	2	4
1472	Maintain site quality standards	2	4
1475	Apply productivity principles in routine processing operations	2	4

1477	Work as member of team in routine processing operations	2	4
------	---------------------------------------------------------	---	---

Elective set A

A minimum of 17 credits are required

FIELD: MANUFACTURING, ENGINEERING AND TECHNOLOGY
Subfield: Metallurgy
Domain: Metallurgical Processing - Core

Unit No.	Unit Standard Title	Level	Credits
1458	Apply operational maintenance skills	2	10
1459	Operate and maintain conveyors at a metallurgical plant	2	8
1461	Transfer bulk fluids into and out of storage facility	2	8
1462	Conduct pump operations	2	4
1463	Operate compressors in a metallurgical plant	2	4
1466	Operate air-blower system	3	6

Elective set B

A minimum of one (1) unit standard is required

FIELD: MANUFACTURING, ENGINEERING AND TECHNOLOGY
Subfield: Lifting, shifting, securing loads
Domain: Lifting Machine Operations

Unit No.	Unit Standard Title	Level	Credits
1089	Sling regular loads and communicate during crane operations	3	20

FIELD: MANUFACTURING, ENGINEERING AND TECHNOLOGY
Subfield: Lifting, shifting, securing loads
Domain: Crane operation

Unit No.	Unit Standard Title	Level	Credits
1093	Lift and place loads with truck-mounted crane	3	20

FIELD: PHYSICAL PLANNING AND CONSTRUCTION
Subfield: Road Construction and Maintenance
Domain: Road Construction and Maintenance – Machine Operations

Unit No.	Unit Standard Title	Level	Credits
1018	Carry out road construction and maintenance activities using a rotary broom	2	8

FIELD: PHYSICAL PLANNING AND CONSTRUCTION
Subfield: Surface Mining and Quarrying
Domain: Heavy Equipment operations

Unit No.	Unit Standard Title	Level	Credits
1118	Lift, move and place loads with a forklift as part of surface mining and quarrying operations	2	5
1119	Carry out surface mining and quarrying activities using a service vehicle	2	8

Mineral Processing Strand

Meet the requirements of all of the following sets

- Compulsory
- Elective Set A
- Elective Set B

Compulsory

The following unit standard is required

FIELD: MANUFACTURING, ENGINEERING AND TECHNOLOGY
Subfield: Metallurgy
Domain: Mineral Processing

Unit No.	Unit Standard Title	Level	Credits
1531	Demonstrate mechanical awareness and plant appreciation as part of mineral processing operations	2	20

Elective Set A

A minimum of 14 credits are required

FIELD: MANUFACTURING, ENGINEERING AND TECHNOLOGY
Subfield: Metallurgy
Domain: Mineral Processing

Unit No.	Unit Standard Title	Level	Credits
1524	Distribute tailings	2	8
1525	Hand sort material in a metallurgical plant	1	2
1526	Convey material by means of a bucket elevator	2	4
1527	Operate an over-belt magnetic separator	2	2
1528	Wash material by means of a rotary scrubber	2	2
1529	Clarify a solution	2	6

1530	Classify material in a metallurgical plant	2	6
------	--------------------------------------------	---	---

Elective Set B

A minimum of one (1) unit standard is required

FIELD: MANUFACTURING, ENGINEERING AND TECHNOLOGY
Subfield: Metallurgy
Domain: Hydrometallurgical Processing

Unit No.	Unit Standard Title	Level	Credits
1401	Determine relative density by means of a density scale	2	3
1402	Dispatch metallurgical process by-products	2	4

Hydrometallurgical Processing Strand

Meet the requirements of all of the following sets

- Compulsory
- Elective Set A
- Elective Set B

Compulsory

The following unit standards are required

FIELD: MANUFACTURING, ENGINEERING AND TECHNOLOGY
Subfield: Metallurgy
Domain: Hydrometallurgical Processing

Unit No.	Unit Standard Title	Level	Credits
1401	Determine relative density by means of a density scale	2	3
1405	Demonstrate mechanical awareness and system appreciation as part of hydrometallurgy operations	2	20

Elective Set A

A minimum of 12 credits are required

FIELD: MANUFACTURING, ENGINEERING AND TECHNOLOGY
Subfield: Metallurgy
Domain: Hydrometallurgical Processing

Unit No.	Unit Standard Title	Level	Credits
1399	Demonstrate knowledge of handling and storing cyanide	1	4

1400	Attend to heat exchangers	2	8
1402	Dispatch metallurgical process by-products	2	4
1403	Adsorb a dissolved metal	3	7
1404	Make-up a sodium cyanide solution in a metallurgical plant	3	6

Elective Set B

A minimum of one (1) unit standard is required

FIELD: MANUFACTURING, ENGINEERING AND TECHNOLOGY

Subfield: Metallurgy

Domain: Mineral Processing

Unit No.	Unit Standard Title	Level	Credits
1529	Clarify a solution	2	6
1530	Classify material in a metallurgical plant	2	6

Pyrometallurgical Processing Strand

Meet the requirements of all of the following sets

- Compulsory
- Elective Set A
- Elective Set B

Compulsory

The following unit standard is required

FIELD: MANUFACTURING, ENGINEERING AND TECHNOLOGY

Subfield: Metallurgy

Domain: Pyrometallurgical Processing

Unit No.	Unit Standard Title	Level	Credits
1503	Demonstrate mechanical awareness and system appreciation as part of pyrometallurgy operations	2	20

Elective Set A

A minimum of any two (2) unit standards are required

FIELD: MANUFACTURING, ENGINEERING AND TECHNOLOGY

Subfield: Metallurgy

Domain: Pyrometallurgical Processing

Unit No.	Unit Standard Title	Level	Credits
1499	Dispatch solid base metals	2	4

1500	Replace medium in a fluidised bed roaster	2	3
1501	Load material into trucks by means of a loading station	3	10
1502	Conduct calcinations activities	3	8

Elective Set B

A minimum of one (1) unit standard is required

FIELD: MANUFACTURING, ENGINEERING AND TECHNOLOGY
Subfield: Metallurgy
Domain: Mineral Processing

Unit No.	Unit Standard Title	Level	Credits
1526	Convey material by means of a bucket elevator	2	4
1527	Operate an over-belt magnetic separator	2	2
1529	Clarify a solution	2	6

3. Credit recognition and transfer arrangements

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

4. Special Arrangements

4.1 Special Arrangements apply to the accreditation of providers offering learning pathways to and/or undertaking assessments relating to all unit standards listed in this qualification under the Subfield of Metallurgy. These Special Arrangements are available from:

Industry Skills Committee - MQCEGWS
 Rand Street
 Khomasdal
 Namibia
 Telephone number: 061-207 8550
 Facsimile number: 061-207 8551
 Email: info@nta.com.na

4.2 Special Arrangements may apply to the accreditation of providers offering learning pathways to and/or undertaking assessment relating to all unit standards listed in this qualification in other Subfields and Domains. These Special Arrangements are available from:

Namibia Qualifications Authority
 44 Bismarck St.
 Windhoek
 Namibia
 Telephone number: 061-384116

Facsimile number: 061-384114
Email: info@namqa.org

Namibia Training Authority
Rand Street
Khomasdal
Namibia
Telephone number: 061-207 8550
Facsimile number: 061-207 8551
Email info@nta.com.na

- 4.3** Regardless of the above, providers seeking accreditation through the relevant authorities must have or have confirmed access to all equipment and facilities detailed in the Special Notes, Performance Criteria and/or Range Statements in the unit standards that are included in this qualification.

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.