SOUTH AFRICAN QUALIFICATIONS AUTHORITY

REGISTERED QUALIFICATION:

Occupational Certificate: Plumber

SAQA QUAL ID	QUALIFICATION TITLE			
91782	Occupational Certificate: Plumber			
ORIGINATOR				
Development Quality Partner - IOPSA				
PRIMARY OR DELEGATED QUALITY ASSURANCE FUNCTIONARY			**NQF SUB-FRAMEWORK**	
QCTO - Quality Council for Trades and Occupations			OQSF - Occupational Qualifications Sub-framework	
QUALIFICATION TYPE	**FIELD**		**SUBFIELD**	
Occupational Certificate	Field 06 - Manufacturing, Engineering and Technology		Engineering and Related Design	
ABET BAND	**MINIMUM CREDITS**	**PRE-2009 NQF LEVEL**	**NQF LEVEL**	**QUAL CLASS**
Undefined	360	Not Applicable	NQF Level 04	Regular-ELOAC
REGISTRATION STATUS		**SAQA DECISION NUMBER**	**REGISTRATION START DATE**	**REGISTRATION END DATE**
Reregistered		EXCO 0425/24	2018-07-01	2025-12-30
LAST DATE FOR ENROLMENT		**LAST DATE FOR ACHIEVEMENT**		
2026-12-30		2029-12-30		

In all of the tables in this document, both the pre-2009 NQF Level and the NQF Level is shown. In the text (purpose statements, qualification rules, etc), any references to NQF Levels are to the pre-2009 levels unless specifically stated otherwise.

This qualification replaces:

Qual ID	Qualification Title	Pre-2009 NQF Level	NQF Level	Min Credits	Replacement Status
21853	National Certificate: Construction Plumbing	Level 3	NQF Level 03	146	Complete

PURPOSE AND RATIONALE OF THE QUALIFICATION

Purpose:

The purpose of this qualification is to prepare a learner to operate as a plumber.

The plumber installs, maintains, tests and repairs hot and cold-water supply systems, drainage, sewerage and rainwater systems.

A qualified learner will be able to:

- Install, maintain, test and repair above-ground soil waste and vent systems and sanitary ware appliances at NQF Level 4.
- Install, maintain and test below-ground drainage systems and perform basic building work at NQF Level 4.
- Install, maintain and test cold water systems and hot water systems at NQF Level 4.
- Install, maintain and test rainwater systems at NQF Level 4.

Rationale:

The Plumbing Industry Registration Board (PRIB) as a SAQA registered Professional Body has a responsibility to ensure that the skills in the Plumbing industry meet the requirements to provide effective and competent Plumbing services. The industry constituencies identified the need to address new technology within the industry which needed to include all aspects of Plumbing for new construction and installations, maintenance aspects post installation, fault finding and repairs in existing installations and specifically working in accordance with relevant legislation as applied to the industry and specific to the installation of plumbing articles.

The learners who will enter this Industry will have varied backgrounds, such as school leavers with relevant qualifications and workers already within the industry. Post the qualification being obtained, the qualified person could work in the plumbing industry (New or Maintenance sector).

This qualification resides as one of several in the construction industry and makes allowance for any feeder occupations to gain access to the Plumber occupation. The Plumber qualification also makes provision for people to progress within this discipline to specialisation areas including above-ground soil waste and vent systems and sanitary ware appliances, below-ground drainage systems and performing basic building work, cold water and hot water systems and rain water systems.

The main benefits of this qualification for the learner are that the learner has an opportunity to be recognised as a qualified artisan with well-structured, relevant and current competencies and able to have access to entrepreneurial opportunities within the construction environment.

The main benefit for the learner will be that he/she will possess a very usable competency whether as an employee or employer. Sanitation is critical to the wellbeing of society in general and the lack or absence thereof will have a very negative impact on society. The economy will grow positively when saving of a scarce resource such as water is managed efficiently by qualified artisans.

LEARNING ASSUMED TO BE IN PLACE AND RECOGNITION OF PRIOR LEARNING

Recognition of Prior Learning (RPL):

RPL for access to the external integrated summative assessment: Accredited providers and approved workplaces must apply the internal assessment criteria specified in the related curriculum document to establish and confirm prior learning. Accredited providers and workplaces must confirm prior learning by issuing a statement of result or certifying a work experience record.

RPL for access to the qualification: accredited providers and approved workplaces may recognise prior learning against the relevant access requirements.

Entry Requirements:

NQF Level 3 qualification equivalent to N2 knowledge areas of Engineering Maths, Science and Building Drawings.

RECOGNISE PREVIOUS LEARNING?

Y

QUALIFICATION RULES

This qualification is made up of the following compulsory Knowledge and Practical Skill Modules:

Knowledge Modules:

- Health, Safety, Quality and Legislation, NQF Level 3, 3 Credits.
- Environment, Energy Efficiency and Ethics, NQF Level 4, 5 Credits.
- Tools, Equipment, Components and Site Practice, NQF Level 3, 3 Credits.
- Drawings and Applied Sciences, NQF Level 4, 7 Credits.
- Theory of Water and Drainage Excavation, NQF Level 4, 8 Credits.
- Above and Below Ground Drainage Systems, NQF Level 4, 43 Credits.
- Sanitary ware, NQF Level 4, 4 Credits.
- Hot and cold-water systems, NQF Level 4, 18 Credits.
- Installation and Maintenance Theory for Plumbing Systems, NQF Level 4, 9 Credits.

Total number of Credits for Knowledge Modules: 100.

Practical Skill Modules:

- Install, maintain and test above-ground soil waste and vent systems and sanitary ware appliances, NQF Level 4, 30 Credits.
- Install, maintain and test below-ground drainage systems, NQF Level 4, 35 Credits.
- Install, maintain and test cold water and hot water systems, NQF Level 4, 35 Credits.
- Install, maintain and test rainwater systems, NQF Level 4, 30 Credits.

Total number of Credits for Practical Skill Modules: 130.

This qualification also requires the following Work Experience Modules:

- Processes and procedures for installation and testing of above ground soil waste and vent systems and sanitary ware appliances, NQF Level 4, 30 Credits.
- Processes and procedures for installation and testing of below-ground drainage systems and performing basic building work, NQF Level 4, 35 Credits.
- Procedures and processes for installation and maintenance of cold water and hot water systems, NQF Level 4, 35 Credits.
- Procedures and processes for installation and maintenance of rainwater systems, NQF Level 4, 30 Credits.

Total number of Credits for Work Experience Modules: 130.

EXIT LEVEL OUTCOMES

1. The ability to install, maintain, test and repair above-ground soil waste and vent systems and sanitary ware appliances.
2. The ability to install, maintain, test and repair below-ground drainage systems and performing basic building work.
3. The ability to install, maintain, test and repair cold water systems and hot water systems.
4. The ability to install, maintain, test and repair rainwater systems.

ASSOCIATED ASSESSMENT CRITERIA

Associated Assessment Criteria for Exit Level Outcome 1:

- Site assessments are conducted and reflect considerations for suitability of site, owner's or builder's requirements, required tools, components, drainage, fittings and pipes, determination of sizing and pipe material, requirements of the relevant standards and bylaws and protection of property against possible damage while carrying out the work.
- Risk assessments are conducted and reflect considerations for hazards, people at risk, activities to reduce risk and ways to put risk assessment into action.
- Quotes are comprehensive and reflect thorough assessment completed.
- Above-ground drainage systems are selected in accordance with required plumbing layout.
- Above-ground drainage systems are installed and tested in accordance with relevant SANS codes.
- The products selected and procured are correct and appropriate to the specifications and requirements.
- Installation is completed through adherence to relevant sections of the OHSA and SHEQ requirements.
- Cleaning drain blockages; repairing damaged sections of pipes; and the making of new branch connections are undertaken in accordance with the required steps and procedures.
- Maintenance and repairs are completed to reflect a fully functional above-ground sanitary drainage systems and sanitary ware appliances that meet task specifications.
- Knowledge and understanding are demonstrated to install, maintain, test and repair above-ground soil waste and vent systems and sanitary ware appliances.

Associated Assessment Criteria for Exit Level Outcome 2:

- Volume and Hydraulic Loading Discharge is calculated to determine the number of Discharge Sanitary fixtures, and the sizing of pipes and determining of gradients.
- Gradients and fall are measured and calculated.
- The spirit level; water level; boning rods; dumpy level and laser level are used to demonstrate the appropriate method, technique and procedure.
- Soil stability is tested by applying visual and manual tests in accordance with SHEQ requirements.
- Soil is excavated and the excavation is shored using sloping and benching methods in accordance with the relevant SANS Code of practice.
- Digging and excavations are undertaken and stabilised by adhering to protective systems guarding principles against cave-ins.
- Pipes and fittings are sized, cut, joined and laid in accordance with health and safety specifications.
- Concrete pipes are lifted, placed and joined in accordance with health and safety specifications.
- Bends, Junctions and Access Points are installed in accordance with the line of the drain.
- Air and Water tests are applied to the below-ground drain to determine optimum level of functioning.
- Knowledge and understanding are demonstrated to install, maintain, test and repair below-ground drainage systems and performing basic building work.

Associated Assessment Criteria for Exit Level Outcome 3:

- Hot and cold-water materials, pipes and relevant equipment are identified and selected according to job requirements and instructions received.
- Hot and cold-water materials, pipes and relevant equipment are handled, transported and carefully stored to prevent damage.
- The site is checked against working drawings where hot and cold-water pipes and equipment are to be positioned.
- Access equipment is acquired and prepared at the worksite in accordance with regulatory requirements for safe working practice.
- Relevant materials, components and tools are procured using specific processes and procedures.
- Copper tubes and fittings are soldered in accordance with the relevant SANS Codes and meeting SHEQ requirements.
- HDPE pipes and fittings are joined using the mechanical compression fitting method in accordance with the relevant SANS Codes.
- Galvanised Mild Steel (GMS) pipes and fittings and Polymer pipes and fittings are joined accordance with the relevant SANS Codes and meeting SHEQ requirements.
- Compression fittings and push fit fittings are utilised in accordance with SHEQ requirements.
- Pressure water pipes are laid under walls, surface beds, in or through floors, concrete slabs or walls, in accordance with the relevant SANS Codes and meeting SHEQ requirements.
- Current Measuring Devices and tools required for working with electricity are operated in accordance with SHEQ requirements.
- Current flow is calculated in Amps; electric potential is calculated in Volts and resistance is calculated in Ohms.

- Adequate thermal lagging and insulation is installed using Isolating Switches; Electrical Wiring; Circuit Breakers; Earthing; Ripple Relay Switches.
- Knowledge and understanding are demonstrated to install, maintain, test and repair cold water systems and hot water systems.

Associated Assessment Criteria for Exit Level Outcome 4:

- Gutter brackets and down pipe holder bats are positioned to ensure gutters are straight, the required positive gradient is achieved, gutters are adequately supported, and rainwater run-off is collected from the roof when installed.
- Rainwater gutters and downpipes are installed in accordance with manufacturer's specifications, checked to ensure rainwater is collected, transported and directed away from the building and checked, cleaned and confirmed to be free of obstruction and leaks.
- Appropriate fittings and jointing materials are used to connect rainwater gutters and down pipes.
- Off-cuts and packaging materials are removed from site in accordance SHEQ requirements.
- Knowledge and understanding are demonstrated to install, maintain, test and repair rainwater systems.

Integrated Assessment:

An external integrated summative assessment, conducted through the relevant QCTO Assessment Quality partner is required for the issuing of this qualification. The external integrated summative assessment will focus on the exit level outcomes and associated assessment criteria.

The external assessment model requires that the external assessment will be conducted through a combination of a written assessment and practical task at an accredited trade test centre. The written examination will be concluded at an accredited trade test centre and marked by registered assessors. Practical tasks will also be assessed by registered assessors. The combination of the written and practical assessment will be conducted over a period of two working days.

INTERNATIONAL COMPARABILITY

The concept that water runs "downhill" is the same throughout the world. Similarly, the physical application or the hands-on of plumbing throughout the world are the same. The physical application or installations of plumbing in buildings throughout the world are the same, which is clearly highlighted in this international comparability study. Extensive research and comparison were undertaken, and they included the two best practice countries of England and Australia.

A comprehensive comparison between the South African National Occupational Qualification: Plumber (NQF Level 4) and the Australian Certificate III in Plumbing were undertaken. The research was aided by a presentation made by a delegate from the Australian plumbing industry and a subsequent benchmarking visit to Australia. The findings of this comparison were that the two qualifications were very similar with regard to the main occupational tasks and their standards with the exception of two competencies; these were basic electricity and basic welding. These were integrated into the unit standards with which they were directly associated. With regard to the elective unit standards, plumbers in South Africa do not perform some of the tasks stipulated in the Australian model. These Unit Standards were identified and put aside.

While the physical application of plumbing may compare favourably to international standards, it must be pointed out that the South African Plumbing qualification does not address the relevant building/plumbing codes of practice for each of the aforementioned countries. While the qualification does address the relevant building/plumbing codes of practices for South Africa, it was felt that an international comparability was not necessary as the aforementioned countries apply their own unique building/plumbing codes of practice. Barring the fact of a country's unique building/plumbing codes of practice it is felt that the South African plumbing qualification compares favourably with international plumbing practices.

ARTICULATION OPTIONS

Learners with this qualification should be able to horizontally access a qualification in the construction arena with cross-cutting credits in the Knowledge Specifications

Learners with this qualification should be able to vertically access relevant qualifications in the building/general construction industry or the Architectural Drawing industry at the Higher Certificate, NQF Level 5 or Diploma at NQF Level 6 areas.

MODERATION OPTIONS

N/A

CRITERIA FOR THE REGISTRATION OF ASSESSORS

Accreditation of providers will be done against the criteria as reflected in the relevant curriculum on the QCTO website.

REREGISTRATION HISTORY

As per the SAQA Board decision/s at that time, this qualification was Reregistered in 2015.

NOTES

This Qualification replaces the following Qualifications:

- 58782, "Further Education and Training Certificate: Plumbing", Level 4, 160 Credits.
- 21853, "National Certificate: Construction Plumbing", Level 3, 146 Credits.

This qualification covers the following recorded trades:

- ID 60816, Chemical Plumber (Includes Sheetmetal Working).
- ID 60810, Plumber.
- ID 60916, Plumber.
- ID 60800, Plumber.
- ID 60885, Plumber.

- ID 60973, Plumber.
- ID 60880, Plumber.
- ID 60876, Plumber.
- ID 60982, Plumber.
- ID 60863, Plumber.
- ID 60957, Plumber.
- ID 60983, Plumber and Sheet-Metal Worker.
- ID 60958, Plumber and Sheet-Metal Worker.
- ID 60974, Plumber and Sheet-Metal Worker.

Qualifying for external assessment:

In order to qualify for an external assessment, learners must provide proof of completion of all required modules by means of statements of results and work experience.

Foundational learning:

Foundational learning competence is a pre-requisite for the awarding this qualification.

Part Qualifications:

This qualification does not have any associated part qualifications.

LEARNING PROGRAMMES RECORDED AGAINST THIS QUALIFICATION:

When qualifications are replaced, some (but not all) of their learning programmes are moved to the replacement qualifications. If a learning programme appears to be missing from here, please check the replaced qualification.

NONE

PROVIDERS CURRENTLY ACCREDITED TO OFFER THIS QUALIFICATION:

This information shows the current accreditations (i.e. those not past their accreditation end dates) and is the most complete record available to SAQA as of today. Some Primary or Delegated Quality Assurance Functionaries have a lag in their recording systems for provider accreditation, in turn leading to a lag in notifying SAQA of all the providers that they have accredited to offer qualifications and unit standards, as well as any extensions to accreditation end dates. The relevant Primary or Delegated Quality Assurance Functionary should be notified if a record appears to be missing from here.

1. BLULEVER EDUCATION