

National Certificate in Water Treatment (Level 4)

Level 4

Credits 134

This qualification has been **reviewed**. The last date to meet the requirements is 31 December 2018.

Transition Arrangements

This qualification has been reviewed and replaced by the New Zealand Certificate in Water Treatment (Level 4) with strands in Drinking-Water, Wastewater, Drinking-Water Multistage Processes, and Wastewater Multistage Processes [Ref: 2242].

The last date for entry into programmes leading to this qualification is 30 June 2017.

People currently working towards this qualification may either complete the requirements by 31 December 2018 or transfer their results to the replacement qualification.

For detailed information see [Review Summaries](#) on the NZQA website.

NZQF National Qualification Registration Information

| Process | Version | Date | Last Date for Assessment |
|--------------|---------|---------------|--------------------------|
| Registration | 1 | July 2001 | December 2011 |
| Revision | 2 | July 2004 | December 2011 |
| Review | 3 | February 2009 | December 2018 |
| Review | 4 | April 2014 | December 2018 |
| Review | 5 | November 2016 | December 2018 |

Standard Setting Body

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National Certificate in Water Treatment (Level 4)

Level 4

Credits 134

Purpose

The National Certificate in Water Treatment (Level 4) [Ref: 0880] is designed to recognise the skills and knowledge required for people to work as site operators on water treatment plants.

The compulsory section recognises the skills required to operate and report on a water treatment plant under supervision, and to work safely, as well as the required knowledge of science theory relating to water, mathematics, processes and process control, quality management, quality sampling techniques, legislation, water sources and pre-treatment, and a range of critical processes involved with water treatment.

The elective section recognises the practical skills of critical water treatment processes and candidates are able to select those processes that relate specifically to the water treatment plant at which they are employed. The elective section is designed to recognise variations between water treatment stations. Candidates are encouraged to complete all standards relevant to their own work situation.

This qualification has some standards in common with the National Certificate in Wastewater Treatment (Level 4) [Ref: 0879], however there is no direct relationship between these two qualifications.

On completion of this qualification candidates can progress to the Water Treatment Strand of the National Diploma in Drinking-Water (Level 5) [Ref: 1012].

Credit Range

| | Compulsory | Elective |
|-----------------|------------|----------|
| Level 1 credits | 3 | - |
| Level 2 credits | 5 | - |
| Level 3 credits | 53 | 0-16 |
| Level 4 credits | 57 | 0-16 |
| Minimum totals | 118 | 16 |
| Total | 134 | |

Requirements for Award of Qualification

Award of NQF Qualifications

Credit gained for a standard may be used only once to meet the requirements of this qualification.

Unit standards and achievement standards that are equivalent in outcome are mutually exclusive for the purpose of award. The table of mutually exclusive standards is provided in section 7 of the New Zealand Qualifications Authority (NZQA) Rules and Procedures publications available at <http://www.nzqa.govt.nz/ncea/acrp/index.html>.

Reviewed standards that continue to recognise the same overall outcome are registered as new versions and retain their identification number (ID). Any version of a standard with the same ID may be used to meet qualification requirements that list the ID and/or that specify the past or current classification of the standard.

Summary of Requirements

- Compulsory standards
- Elective – A minimum of 16 credits as specified

Detailed Requirements

Compulsory

The following standards are required

Engineering and Technology > Water Industry > Water - Generic

| ID | Title | Level | Credit |
|-------|---|-------|--------|
| 17870 | Carry out safe practices when working in water and wastewater treatment plants | 2 | 2 |
| 17871 | Describe safe practices when working with hazards in water and wastewater treatment plants | 3 | 3 |
| 17874 | Demonstrate knowledge of basic science theory relating to water | 3 | 6 |
| 19200 | Demonstrate knowledge of, and apply, mathematics in the water industry | 2 | 3 |
| 24913 | Describe processes, process control, and monitoring, in a water or wastewater treatment plant | 3 | 5 |
| 24917 | Demonstrate knowledge of water and wastewater treatment plants quality management | 4 | 5 |

Engineering and Technology > Water Industry > Water Treatment

| ID | Title | Level | Credit |
|-------|--|-------|--------|
| 17890 | Undertake sampling and testing procedures for water treatment | 3 | 7 |
| 17891 | Demonstrate knowledge of quality sampling techniques and programme design for a water treatment site | 3 | 5 |
| 17894 | Demonstrate knowledge of surface water and groundwater sources and pre-treatment | 3 | 7 |

| ID | Title | Level | Credit |
|-------|---|-------|--------|
| 17895 | Demonstrate knowledge of water treatment separation processes | 3 | 5 |
| 17896 | Demonstrate knowledge of water treatment filtration processes | 4 | 10 |
| 17897 | Demonstrate knowledge of water treatment disinfection processes | 4 | 6 |
| 17900 | Describe organic compounds including taste and odour control in water treatment processes | 4 | 4 |
| 17901 | Demonstrate knowledge of water treatment waste management processes | 3 | 4 |
| 24915 | Demonstrate knowledge of the legislative framework and agencies relevant to drinking-water supply | 3 | 3 |
| 24950 | Operate and report on a water treatment plant under supervision | 4 | 10 |
| 24951 | Describe emergency situations and process failure conditions in a water treatment plant | 4 | 2 |
| 24953 | Operate chlorine disinfection processes in water treatment | 4 | 12 |
| 24964 | Demonstrate knowledge of hardness, pH, and alkalinity control processes in water treatment | 4 | 8 |
| 24965 | Demonstrate knowledge of water treatment fluoridation processes | 3 | 2 |
| 24974 | Demonstrate knowledge of coagulation and flocculation processes | 3 | 6 |

Health > Occupational Health and Safety > Occupational Health and Safety Practice

| ID | Title | Level | Credit |
|-----|---|-------|--------|
| 497 | Demonstrate knowledge of workplace health and safety requirements | 1 | 3 |

Elective

A minimum of 16 credits

Engineering and Technology > Water Industry > Water Treatment

| ID | Title | Level | Credit |
|-------|--|-------|--------|
| 24952 | Operate ultraviolet disinfection processes in water treatment | 4 | 10 |
| 24954 | Operate ozone disinfection processes in water treatment | 4 | 12 |
| 24955 | Operate organic control processes, including taste and odour control, in water treatment | 3 | 8 |
| 24956 | Operate pH and alkalinity control processes in water treatment | 4 | 8 |
| 24957 | Operate pre-treatment processes in water treatment | 3 | 6 |

| ID | Title | Level | Credit |
|-------|---|-------|--------|
| 24958 | Operate coagulation and flocculation processes in water treatment | 4 | 16 |
| 24959 | Operate separation processes in water treatment | 4 | 8 |
| 24960 | Operate media filtration processes in water treatment | 4 | 10 |
| 24961 | Operate membrane filtration processes in water treatment | 4 | 12 |
| 24962 | Operate waste separation processes in water treatment | 3 | 8 |
| 24963 | Operate fluoridation processes in water treatment | 4 | 8 |

Transition Arrangements

Version 4

This version was republished to extend the last date for entry from 31 December 2016 to 30 June 2017.

Version 3

Version 3 was issued following review.

Changes to structure and content

- Standards have been updated or replaced as a result of the review of *Water Industry* standards (see exemption table below).
- The level of the qualification has been added to the title.
- The descriptor *Site Operator* has been removed from the qualification title as reference to the job title is no longer required.
- Standards 19200, 24953, and 24974 have been added to the Compulsory section.
- Standards 5228, 5241, 6400, 6401, 6402, 9681, 9707, 17892, and 17893 have been removed from the Compulsory section as they are no longer required in this qualification.
- A new elective section has been added.
- Total credits have been increased from 120 to 134.
- The recognition of prior learning (RPL) assessment process which was introduced in version 2 of this qualification in order to upgrade holders of 'C' and 'B' Certificates in Water Treatment is no longer available and has not been included in this version of the qualification.

For detailed information see [Review Summaries](#) on the NZQA website.

This qualification contains standards that replace earlier standards. For the purposes of this qualification, people who have gained credit for the expiring standards are exempt from the requirement to gain credit for the replacement standards – see table below.

| Credit for | Exempt from |
|------------|--------------|
| 17873 | 24913 |
| 17875 | 24915 |
| 17876 | 24917 |
| 17889 | 24950, 24951 |
| 17898 | 24964 |
| 17899 | 24965 |

People working towards versions 1 and 2 of this qualification may either complete the requirements for that version or transfer their results to version 3.

The last date for entry to programmes or courses for the replaced version is December 2009.

It is not intended that anyone be disadvantaged by this review. However, anyone who feels they have been disadvantaged may appeal to the Agriculture Industry Training Organisation at the address below.

Previous versions of the qualification

Version 2 was issued following revision to update the certificate statement and the transition information regarding non-NQF certificates offered by Opus International Consultants.

Other standard setting bodies whose standards are included in the qualification

New Zealand Industry Training Organisation

Certification

This certificate will display the logos of NZQA, Water Industry Training and the accredited organisation.

Classification

This qualification is classified according to the NQF classification system and the New Zealand Standard Classification of Education (NZSCED) system as specified below.

| NQF Classification | | NZSCED | |
|--------------------|---|--------|---|
| Code | Description | Code | Description |
| 1731 | Engineering and Technology > Water Industry > Water Treatment | 030907 | Engineering and Related Technologies > Civil Engineering > Water and Sanitary Engineering |

Quality Management Systems

Providers and Industry Training Organisations must be accredited by a recognised Quality Assurance Body before they can register credits from assessment against standards. Accredited providers and Industry Training Organisations assessing against standards must engage with the moderation system that applies to those standards. Accreditation requirements and the moderation system are outlined in the associated Accreditation and Moderation Action Plan (AMAP) for each standard.

REVIEWING