

<b>Title</b>	<b>Maintain water quality in a basic public pool</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>10</b>

<b>Purpose</b>	<p>This unit standard is intended for people working in a basic public pool and who are responsible for the water quality.</p> <p>People credited with this unit standard are able to: describe pool water treatment and related equipment; monitor and operate pool equipment for maintaining pool water quality; monitor pool water quality and interpret the results; carry out corrective procedures to ensure pool water quality; handle and store pool water treatment chemicals; and explain planned preventative maintenance in relation to pool water treatment equipment, in a basic public pool.</p>
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<b>Classification</b>	Recreation and Sport > Recreation and Sport - Aquatics
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<b>Available grade</b>	Achieved
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## Guidance Information

- All learning and assessment within this unit standard must be carried out in accordance with the following, as relevant to role:

  - relevant legislation including Health and Safety at Work Act 2015, Privacy Act 2020, Human Rights Act 1993, Health and Safety at Work (Hazardous Substances) Regulations 2017, Hazardous Substances and New Organisms Act 1996, Accident Compensation Act 2001, Vulnerable Children Act 2014, and any subsequent amendments;
  - industry standards, codes and good practice guidelines including: NZS 4441:2008 *Swimming pool design Standard*; and NZS 5826:2010 *Pool water quality*, available from [www.standards.govt.nz](http://www.standards.govt.nz);
  - organisational policies and procedures including Emergency Action Plans (EAPs), Standard Operating Procedures (SOPs) or Normal Operating Procedures (NOPs), and requirements for the use of personal protective equipment (PPE).
- Definitions

*Notifiable disease* means diseases that are required to be notified to the Medical Officer of Health as specified in the Health Act 1956.

*Organisational policies and procedures* refer to the operations manual or documented normal operating procedures at an aquatic facility that set out the way in which the facility will operate on a day-to-day basis.

*Public pool* is as defined in NZS 5826:2010 as the pool or pools, their fixtures and surrounds, shower and changing areas, fun equipment, play areas, and attached facilities where they exist. A *basic public pool* tends to have the following characteristics: moderate to high bather loads; basic filtration; no or low level of automation; and use of chlorine disinfection.

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## Outcomes and performance criteria

### Outcome 1

Describe pool water treatment and related equipment in a basic public pool.

#### Performance criteria

- 1.1 Describe filtration systems in terms of purpose, operation, and maintenance requirements.
- Range media, pre-coat.
- 1.2 Describe recirculation systems in terms of purpose, operation, and maintenance requirements.
- Range balance tank, pump, inlet and outlet structures.
- 1.3 Describe the relationships between pool volume, turnover rate, and bather load in relation to water treatment equipment.
- Range heated pool, unheated pool, instantaneous bathing load, pool load factor.
- 1.4 Describe chemical dosing in terms of purpose and maintenance requirements.
- Range chlorine, pH, cyanuric acid, calcium hardness, coagulant, chlorine dioxide, alkalinity.
- 1.5 Describe chemical corrective procedures.
- Range pH, FAC (free available chlorine), CAC (combined available chlorine), cyanuric acid, TDS (total dissolved solids), calcium hardness, alkalinity, super chlorination.

### Outcome 2

Monitor and operate pool equipment for maintaining pool water quality in a basic public pool.

#### Performance criteria

- 2.1 Monitor and operate filtration.
- 2.2 Monitor, operate, and maintain recirculation system.

2.3 Operate and maintain chemical dosing systems.

Range chlorine, pH;  
may include but is not limited to – cyanuric acid, calcium hardness, coagulant, alkalinity.

### Outcome 3

Monitor pool water quality and interpret the results in a basic public pool.

#### Performance criteria

3.1 Carry out water quality monitoring in accordance with NZS 5826:2010.

Range one of – swimming pool, spa pool;  
monitoring for – pH, FAC, TAC, CAC, TDS, calcium hardness, alkalinity;  
methods may include – titration, photometer, colourimetric measurement, calculation.

3.2 Record results of water quality monitoring in accordance with organisational policies and procedures.

Range pH, FAC, TAC, CAC, TDS, calcium hardness, alkalinity.

3.3 Interpret recorded water quality monitoring results in accordance with NZS 5826:2010.

### Outcome 4

Carry out corrective procedures to ensure pool water quality in a basic public pool.

#### Performance criteria

4.1 Carry out chemical corrective procedures.

Range pH, FAC, CAC.

4.2 Perform calculations in relation to non-automated chemical corrective procedures.

Range may include but is not limited to – CAC, cyanuric acid, calcium hardness, alkalinity, super chlorination.

4.3 Follow procedures to deal with pool contamination and report incidents in accordance with NZS 5826:2010.

Range may include but is not limited to – blood, vomit, faeces, notifiable disease.

**Outcome 5**

Handle and store pool water treatment chemicals in a basic public pool.

**Performance criteria**

- 5.1 Handle and store site chemicals for pool water treatment in accordance with material safety data sheets.

**Outcome 6**

Explain planned preventative maintenance in relation to pool water treatment equipment in a basic public pool.

**Performance criteria**

- 6.1 Explain planned preventative maintenance of pool water treatment equipment in terms of ongoing management of pool water quality.

Range pumps, filters, chemical dosing systems.

<b>Replacement information</b>	This unit standard replaced unit standard 18339.
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<b>Planned review date</b>	31 December 2026
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	12 February 2010	31 December 2011
Revision	2	18 February 2011	31 December 2020
Review	3	1 November 2018	31 December 2023
Review	4	28 October 2021	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0099
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

**Comments on this unit standard**

Please contact Skills Active Aotearoa Limited [info@skillsactive.org.nz](mailto:info@skillsactive.org.nz) if you wish to suggest changes to the content of this unit standard.