

Title	Demonstrate knowledge of pool water treatment for public pools and spa pools		
Level	4	Credits	10

Purpose	<p>This unit standard is intended for people working in a public pool or spa pool.</p> <p>People credited with this unit standard are able to demonstrate knowledge of: pool water treatment and related equipment; and organisms, control measures and monitoring relevant to water quality, for public pools and spa pools.</p>
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Classification	Recreation and Sport > Recreation and Sport - Aquatics
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Available grade	Achieved
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Guidance Information

- 1 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 1993, Human Rights Act 1993, Health and Safety at Work (Hazardous Substances) Regulations 2017, Hazardous Substances and New Organisms Act 1996, Accident Compensation Act 2001, Health Act 1956, Local Government Act 2002, 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 <http://www.standards.co.nz>;
 - organisational policies and procedures including Emergency Action Plans (EAPs), Standard Operating Procedures (SOPs) or Normal Operating Procedures (NOPs), and the use of personal protective equipment (PPE).
- 2 This unit standard, and Unit 20046, *Monitor pool water quality and store pool water treatment chemicals*, are recommended as the minimum training required to meet NZS 5826:2010. This unit standard also recognises important underpinning knowledge and skills leading on to Unit 25981, *Manage water quality in a basic public pool*, or Unit 31987, *Manage water quality in a complex public pool and spa pool*.
- 3 **Definitions**

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 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.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of pool water treatment and related equipment for public pools and spa pools.

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, heat exchangers.
- 1.3 Identify and explain chemicals that can be used to obtain the correct pH, alkalinity and calcium hardness of pool water in terms of pool water chemistry.
- Range includes but is not limited to – sodium bicarbonate, carbon dioxide, calcium chloride.
- 1.4 Describe the mechanisms to dose chemicals used to obtain the correct pH, alkalinity and calcium hardness of pool water in terms of purpose, operation and maintenance requirements.
- 1.5 Describe additional treatment systems in terms of purpose, operation and maintenance requirements.
- Range additional treatment systems may include but are not limited to – chlorine dioxide, ozone, mixed oxidants, ultra violet, coagulants.
- 1.6 Describe pool design in terms of implications on pool water quality.
- Range includes but is not limited to – pool water features, splash pads, spa pools, hydrotherapy, geothermal.
- 1.7 Describe chemical and microbiological corrective procedures.
- Range pH, FAC (free available chlorine), CAC (combined available chlorine), cyanuric acid, TDS (total dissolved solids), calcium hardness, alkalinity, super chlorination, de-chlorination.
- 1.8 Describe source water in terms of its impact on pool water quality and pool plant operations.
- Range includes but is not limited to – potable, non-potable (such as sea water), geothermal water.

Outcome 2

Demonstrate knowledge of organisms, control measures and monitoring relevant to water quality for public pools and spa pools.

Performance criteria

2.1 Identify organisms potentially found in a public pool and spa pool in terms of their risks to pool users.

2.2 Describe control measures for organisms that affect pool water quality in terms of their use and effectiveness for water quality.

Range controls include but are not limited to – communications to pool users, chemical controls, equipment controls; chemical controls – pH scale, alkalinity, chlorine disinfection; equipment controls include but are not limited to – filters, ultra violet light.

2.3 Identify tests for monitoring organisms in terms of type, significance, testing frequency, and compliance with NZS 5826:2010.

Planned review date	31 December 2024
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	28 November 2019	N/A

Consent and Moderation Requirements (CMR) reference	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 if you wish to suggest changes to the content of this unit standard.