

Title	Perform calculations relevant to water quality in a public pool and spa pool		
Level	3	Credits	5

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: describe the SI units relevant to pool water quality in a public pool and spa pool, and perform calculations applicable to pool water quality in a public pool and spa pool.</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, Health and Safety at Work (Hazardous Substances) Regulations 2017, Hazardous Substances and New Organisms Act 1996, 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**

Cuboid, for the purpose of this unit standard, refers to the shape of the volume of water contained within a rectangular pool.

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.

Standard International (SI) units refer to metric units of measurement for length, mass, time, temperature, electric current, luminous intensity and amount of substance.

Outcomes and performance criteria

Outcome 1

Describe the SI units relevant to pool water quality in a public pool and spa pool.

Performance criteria

1.1 The units used in the SI metric system are described in terms of their applications for pool water quality.

Range length, area, time, volume, mass, velocity, flow rate, pressure, temperature, concentration.

Outcome 2

Perform calculations applicable to pool water quality in a public pool and spa pool.

Performance criteria

2.1 Perform calculations applicable to pool water quality using Standard International units.

Range surface area (rectangular, circular), volume (cuboid, cylindrical), flow rate, turnover, concentration, velocity.

2.2 Explain relationships between pool volume, turnover rate, filtration rates, and bather load.

2.3 Calculate detention or storage time given a flow rate and fixed volume vessel.

2.4 Perform calculations in relation to chemical and microbiological corrective procedures to ensure accuracy of chemical dosing.

Range pH, FAC (free available chlorine), CAC (combined available chlorine), cyanuric acid, TDS (total dissolved solids), calcium hardness, alkalinity, super chlorination, de-chlorination.

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

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.