Qualification
Guidance

Active IQ Level 3 Award Managing Pool Operations

This qualification is for delivery in Wales only.

Qualification
Accreditation Number:
C00/4779/2
Version AIQ006311

Active iQ

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Introduction

The Active IQ Level 3 Award in Managing Pool Operations is at Level 3 in the QiW database which is owned and managed by Qualifications Wales, the regulator of non-degree qualifications and the qualifications system in Wales. **This qualification is for delivery in Wales only.**

Guided learning hours:	26	**Total qualification time:**	60

Credits:	6

Entry requirements:

- There are no specific entry requirements.
- There is an element of communication (discussing, presenting, reading and writing) involved and learners should have basic skills in communication pitched at Level 2.

Qualification outline

Target learners:

- Learners aged 16+.
- Learners considering a career in the active leisure sector.
- Learners wishing to develop an understanding of the technical operations of swimming pools and other types of pools.
- Learners wishing to progress on to a facility management position in the active leisure sector.
- Learners who are enrolled on active leisure apprenticeships in Wales.

Purpose

The purpose of this qualification is to provide learners with an understanding of the technical operations of swimming pools, small pools, (e.g. school pools, hotel pools, hydrotherapy pools etc.) and to provide the knowledge and skills required to manage and operate pool plant safely and efficiently.

Progression

This qualification provides progression on to:

- Apprenticeships within the active leisure sector.

Links to National Standards

The qualification is underpinned by the overarching professional standards for:

- Pool plant operations.

Occupational competence statements for tutoring, assessing and internally verifying

This section outlines the requirements for tutoring, assessing and internally verifying Active IQ qualifications.

Required criteria

All tutors, assessors and internal verifiers must:

- Possess a discipline-specific qualification equivalent to the qualification being taught.
- Have relevant industry experience.
- Demonstrate active involvement in a process of industry-relevant continuing professional development during the last two years (this may be discipline/context-specific or relevant to tutoring assessing or quality assurance).

Tutors and assessors

Tutors must hold, or be working towards, a teaching qualification.

The following are acceptable:

- Level 3 Award in Education and Training.
- Level 4 Certificate in Education and Training.
- Level 5 Diploma in Education and Training.
- Certificate in Education (including professional and postgraduate).
- Qualified Teacher Status (QTS).

Assessors

Assessors must hold, or be working towards, any of the following:

- Level 3 Award in Understanding the Principles and Practices of Assessment.
- Level 3 Award in Assessing Vocationally Related Achievement.
- Level 3 Award in Assessing Competence in the Work Environment.
- Level 3 Certificate in Assessing Vocational Achievement.
- A1 (previously D32, D33).

Internal verifiers

Internal verifiers must hold, or be working towards, any of the following:

- Level 4 Award in Understanding the Internal Quality Assurance of Assessment Processes and Practice.
- Level 4 Award in the Internal Quality Assurance of Assessment Processes and Practice.
- Level 4 Certificate in Leading the Internal Quality Assurance of Assessment Processes and Practice.
- V1 (previously D34).

All new assessors and quality assurance staff must be given a clear action plan for achieving the appropriate qualification(s) which should be countersigned by an appropriately qualified individual until the qualification(s) are achieved.

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Qualification structure

Learners must complete the three mandatory units.

Mandatory units

	Unit	Unit accreditation number	Level	Credits
1	The principles and practice of pool water treatment and testing	L/650/6277	2	2
2	The principles of pool plant operations and chemical safety	M/650/6278	3	2
3	The management of pool water quality	R/650/6279	3	2

Unit 1 L/650/6277 **Level:** 2 **Credits:** 2
Unit Title: The principles of operation and practice of pool water treatment and testing

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Understand the legal responsibilities of pool operators to provide a safe pool environment	1.1 Describe the legal responsibilities of pool operators to provide a safe pool environment 1.2 State the ways in which pool operators can meet these legal requirements 1.3 List the key current legislation and regulations which relate to pool operations
2. Understand the different types of pools and pool ownership	2.1 Identify a range of pools used in active leisure facilities. 2.2 Describe the main purpose of each of the pools types used in the active leisure sector 2.3 Explain the ownership and management methods used in the active leisure sector
3. Understand the causes of pool water pollution and contamination	3.1 List the causes of pool water pollution to include: • physical pollutants • chemical pollutants • biological pollutants
4. Understand the importance of good bather hygiene prior to the use of pools	4.1 List the advantages to both the user and the pool operators of good hygiene 4.2 List ways to encourage user to utilise good hygiene practice before entering the pool
5. Understand the importance of good standards of cleanliness in the swimming pool environment	5.1 State ways to minimise the transfer of dirt on to pool side 5.2 State the correct processes for the effective cleaning of the pool and surrounds
6. Understand the operating principles of a simple pool water circulation system	6.1 List the main components of a pool water circulation system 6.2 State the correct sequence of the pool water circulation system
7. Know the recommended temperatures for the types of pools	7.1 List the recommended pool water temperatures for a range of pools

Learning outcomes The learner will:	Assessment criteria The learner can:
8. Understand how pool operators provide a safe pool environment	8.1 Explain the reasons for disinfecting swimming pools 8.2 State the pool water tests needed to ensure a safe pool environment 8.3 Describe the process for calculating combined chlorine levels 8.4 Describe the recommended range for pool water pH levels 8.5 List the recommended range for pool water disinfection levels to include: • chlorine based disinfectants • bromine based disinfectants
9. Know the essential tests to ensure optimum pool water quality	9.1 List the pool water tests required to ensure optimum pool water quality 9.2 List the optimum range for each pool water test to ensure pool water quality 9.3 Describe the correct procedure for carrying out the pool water tests required to ensure good pool water quality
10. Understand the different types of pool water testing equipment needed to ensure good quality pool water	10.1 Know the different types of test equipment used for testing pool water
11. Demonstrate correct pool water testing techniques	11.1 Carry out a pool water pH test 11.2 Record pool water pH level 11.3 Carry out a pool water free chlorine/total bromine test 11.4 Record pool water free chlorine/total bromine level 11.5 Carry out a pool water total chlorine test 11.6 Record pool water total chlorine levels 11.7 Calculate and record the pool water combined chlorine level 11.8 Carry out a pool water total alkalinity test 11.9 Calculate and record the pool water total alkalinity level 11.10 Carry out a pool water calcium hardness test 11.11 Calculate and record the pool water calcium hardness level 11.12 Carry out a pool water TDS test 11.13 Record the pool water TDS level
12. Understand the importance of good record keeping	12.1 List the reasons why it is essential to maintain accurate records of pool water tests
Assessment	Task Worksheet

Unit 2 M/650/6278 **Level:** 3 **Credits:** 2
Unit Title: The principles of pool plant operations and chemical safety

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Understand the processes involved in the treatment of pool water	1.1 Explain the function of the main components of a pool plant to include: • skimmers • strainers • pumps • filters • automatic dosing units • valves • coagulation/flocculation dosing • heat exchanger • chemical injection points 1.2 Draw a schematic diagram of a pool to show the principle components and main valves
2. Understand the different types of pool water filtration systems	2.1 Identify a range of pool water filtration systems 2.2 Explain the importance of coagulation and flocculation in the filtration process
3. Understand the importance of cleaning the pool filtration system regularly	3.1 Explain the importance of cleaning the pool filtration system regularly 3.2 Describe the process of backwashing sand filters 3.3 Identify when a backwash should be carried out 3.4 Explain the reasons why a backwash must be carried out 3.5 List the items which should be recorded as evidence when backwashing sand filters 3.6 Describe the process for cleaning cartridge filters
4. Know the different types of valves commonly used in pool plant operations	4.1 Identify the different types of valves in pool plant operations
5. Understand the concepts of risk and hazard	5.1 Define 'hazard' 5.2 Define 'risk' 5.3 Explain how to carry out a risk assessment
6. Know the types and the purpose of chemicals used in pools	6.1 List the chemicals used to maintain pool water quality 6.2 Explain the purpose of the chemicals used to maintain pool water quality 6.3 Identify the properties of the chemicals used to maintain the pool water quality

Learning outcomes The learner will:	Assessment criteria The learner can:
7. Understand the risks involved in the storage and use of chemicals for the treatment of swimming pool water	7.1 Identify the requirements for safe storage and handling of the chemicals used in the treatment of pool water 7.2 Recognise the risks of incorrect storage, handling and use of the chemicals used in the treatment of pool water 7.3 Carry out a risk assessment on the chemical used to disinfect the pool water
8. Understand the importance of effective hydraulic flow of swimming pool water	8.1 Describe the routes by which water circulates from the pool inlets to outlets 8.2 Explain the reasons for having an efficient surface draw off system in a pool 8.3 Explain the hazards associated with pool outlets
9. Understand the processes involved in the operation and treatment of spa pools and hot tubs	9.1 Explain the processes involved in the operation and treatment of spa pools and hot tubs 9.2 Identify the hazards commonly associated with spa pools and hot tubs
Assessment	Worksheet Assignment

Unit 3 R/650/6279 **Level:** 3 **Credits:** 2
Unit Title: The management of pool water quality

Learning outcomes The learner will:	Assessment criteria The learner can:
1. Understand the importance of safe and effective pool water management	1.1 List the factors which influence pool water management 1.2 Explain the hazards associated with ineffective pool water treatment
2. Understand the importance of providing a safe and effective pool water disinfection system	2.1 Explain the importance of managing disinfection levels to ensure pool water safety 2.2 Explain the difference between free chlorine and combined chlorine 2.3 Describe the chemical reactions which take place when chlorine meets ammonia in pool water 2.4 Describe the link between pH and the efficiency of disinfection 2.5 Explain the impact of UV on disinfectant levels 2.6 Describe how brominated systems are used to disinfect pools
3. Understand how the differing properties of the incoming mains water supply affects the treatment of pool water	3.1 Describe the properties of incoming mains water from different sources to include: • surface water • ground water from deep wells and boreholes 3.2 Describe the impact of incoming mains water on pool water treatment

Learning outcomes The learner will:	Assessment criteria The learner can:
4. Understand the factors which influence optimum pool water quality	4.1 Describe the terms: • pH • total alkalinity • calcium hardness • total dissolved solids 4.2 Explain why the following are important in maintaining balanced pool water: • pH • total alkalinity • calcium hardness • total dissolved solids 4.3 Describe how to alter: • pH • total alkalinity • calcium hardness • total dissolved solids 4.4 Calculate the balanced water index and interpret the impact of this on the pool 4.5 Analyse a range of pool water readings, compare with recommended levels and recommend where improvements can be implemented
5. Know the legislation, guidance documents and codes of practice which affect pool operations	5.1 List the current legislation and regulations which affect pool operations 5.2 List the guidance documents and codes of practice which influence the safe operations of the pool environment 5.3 Explain how health and safety legislation and codes of practice affect working practices in a pool environment 5.4 State the importance of having written systems of work, to include: • risk assessments • pool safety operating procedures (PSOP's) • normal operating procedures (NOPs) • emergency action plans (EAPs) • pool technical operating procedures (PTOPs) 5.5 Explain the importance of being able to apply the available guidance in a rational and informed way when deciding on the parameters to be included in the Pool Safety Operating Procedure for a particular pool

Learning outcomes The learner will:	Assessment criteria The learner can:
6. Understand how to recognise and implement emergency procedures	6.1 Identify a range of emergency procedures that could be used in a pool environment 6.2 Explain when evacuation of a pool environment would be necessary 6.3 Explain how to implement the procedure for evacuating the pool environment 6.4 Explain how to ensure the health and safety of pool users during an evacuation 6.5 Explain the procedures to be followed in the event of the following incidents in the pool: • faecal • blood • vomiting
7. Understand the criteria to be considered when designing a pool water treatment plant	7.1 Identify the critical factors to be considered when designing a pool water treatment plant including: • what the pool is used for • programme and bathing load • pool design • turnover period • surface water removal • chemicals • available plant room space
8. Understand the different types of systems used in the disinfection of pool water	8.1 List the factors which influence the choice of disinfectant 8.2 Describe different types of pool water disinfection systems
9. Understanding the risks and hazards associated with operating pressurised mechanical systems	9.1 Describe the types of pressurised mechanical systems used in pools 9.2 State the legislation applicable to pressurised mechanical systems used in pools 9.3 Identify the risks and hazards associated with operating pressurised mechanical systems
10. Understand the processes involved in the operation and treatment of interactive water features	10.1 Define the term ‘interactive water feature’ 10.2 Identify the hazards commonly associated with interactive water features

Learning outcomes The learner will:	Assessment criteria The learner can:
11. Know the different types of infections associated with poor pool water quality and poor hygiene	11.1 Recognise the different types of infections associated with poor water quality and hygiene 11.2 Explain how infections are transmitted in a pool environment 11.3 Explain the measures used to control the transmission of infections 11.4 Explain the process for carrying out microbiological testing 11.5 Explain the importance of microbiological testing and the monitoring of results 11.6 State the acceptable levels of bacteriological results for a pool water sample to include: • ACC/TVC • coliforms • pseudomonas aeruginosa 11.7 State the bacteriological results which would be considered to be gross contamination
12. Understand the principles of heating and ventilating the pool environment	12.1 Describe the processes involved in the heating and ventilating of the pool environment
13. Understand the importance of encouraging the efficient use of energy	13.1 List ways in which pool operators can improve energy efficiency 13.2 List the systems that can be used to run an economic, energy efficient and effective pool facility 13.3 Record and review energy usage to improve energy performance
Assessment	eAssessment

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