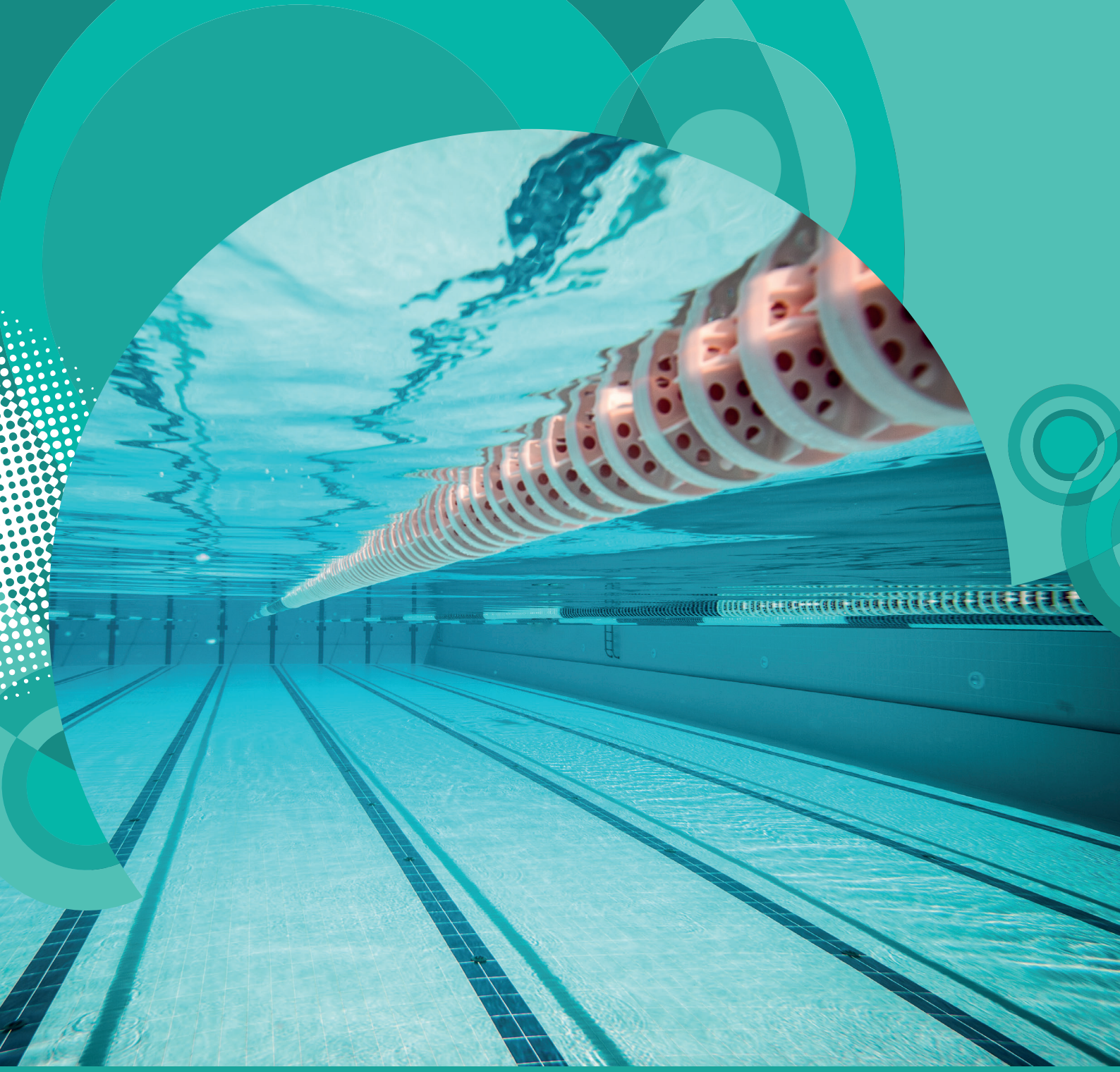

Qualification Specification

STA Level 3 Award in Pool Plant Operations

Version 17.3

This qualification is regulated by Ofqual (England)

STA Level 3 Award in Pool Plant Operations

Qualification Number: 603/2579/3

Credit Value: 6 Credits

Qualification Structure

This qualification consists of 6 mandatory units

Unit Title	Code	Credit Value	Unit Level	GLH	TQT
Principles of healthy and hygienic pool water	A/616/6613	1	2	3	4
Principles of pool water testing	R/616/6617	1	2	4	5
Principles of disinfection, pool chemistry and dosing in pool plant operations	T/616/6612	1	3	5	6
Principles of mechanical pool plant operations	L/616/6616	1	3	6	7
Swimming pool heating, ventilation and energy efficiency	F/616/6614	1	3	3	4
Management practices and health and safety in plant operations	J/616/6615	1	3	4	5

GLH = Guided learning hours
TQT = Total qualification time

Qualification Delivery

The ratio for this qualification is a maximum of 16 learners to 1 Trainer / Assessor.

Introduction:

The STA Level 3 Award in Pool Plant Operations provides learners with the skills and knowledge to maintain and operate a pool, spa and interactive water feature plant, ensuring safe, clear and hygienic water.

Qualification Objective:

The objective of the Pool Plant Operations qualification is to enable individuals to develop the skills and knowledge required to ensure the safety of swimmers, users, operators and other persons. Whilst providing operators with the skills and knowledge to comply with best practice principles, health, safety and legal responsibilities.

Target Learners

This qualification is for people who have a specific responsibility for pool plant operations, maintaining plant rooms, ensuring safe bather conditions and water testing.
Some examples of sites where this qualification is required include:

- Swimming Pools
- Sports and Leisure Centres
- Health Clubs
- Spas (Including those displayed in retail outlets / distributors / installers
- Hotels
- Holiday Parks
- Hydrotherapy Pools
- Schools
- Parks
- Lidos
- Interactive water features
- Swim schools.

Progression

The STA Pool Plant Operations qualification enables learners to progress their education in other leisure and recreation related qualifications. Gain experience / continue employment in leisure management, maintenance or train to become pool plant tutors.

Requalification Requirements

This qualification is valid for a period of 5 years. The learner needs to retake the qualification before the certificate expiry date to remain qualified.

Expired Pool Plant Certificates

Employers and learners should be aware that there is an increased risk of failing to achieve the required standard if previous certification has expired by a considerable period (HSE defines this as in excess of 1 month). If this is the case, HSE recommends "it may be prudent to complete a 3-day course".

Industry Standards

The Pool Plant Operations qualification follows principles set out in the Pool Water Treatment Advisory Group's (PWTAG) code of practice and publication 'Swimming Pool Water'. It follows a range of Health and Safety guidance documents including:

- HSG 179
- HSG 274
- HSG 282
- NOS SKA PPO1

Entry Requirements

Learners must be 16 years of age or above on the first day of the course. It is advisable that learners have a minimum of level 1 in literacy or numeracy or equivalent.

Special Considerations and Reasonable Adjustments Policies

STA have put measures in place for learners requiring additional support whilst undertaking STA courses.

For further information on these, please refer to the resources section on www.sta.co.uk; STA Special Considerations Policy https://www.sta.co.uk/resources/policies/special-consideration-policy/, STA Reasonable Adjustments Policy https://www.sta.co.uk/resources/policies/reasonable-adjustments-policy/

Grading Format

Pass / Fail

Association and Awarding Organisation Policies

A full list of association and awarding organisation policies are available on our website: www.sta.co.uk/resources/policies

Assessment Methods

This qualification is tutor assessed through the completion of worksheets and practical demonstrations.

Worksheets are to be completed independently by each learner, with the tutor acting as the invigilator.

Incorrect or insufficient worksheet answers can be corrected or re-submitted in the notes section at the end of the worksheets. Alternatively, they can be addressed through oral supplementary questioning. All additional questions and responses must be recorded in the notes section of the worksheets.

Assessors will assess no more than 4 learners at any one time when performing practical demonstrations.

All practical tasks must be performed independently by the learner without prompting by the tutor.

Please refer to the STA pool plant assessment guidance document for the detailed assessment process.

Tutor / Assessor Requirements

All tutors must have the skills, knowledge and experience to be able to teach and demonstrate the subject.

Each tutor must be approved by Safety Training Awards and provide evidence of:

1. A relevant vocational pool plant operations qualification and/or experience as shown in Appendix 1
2. Attend a STA pool plant tutors course or experience of delivering for another awarding organisation.

IQA Requirements

Internal Quality Assurers (IQAs) of this qualification must have knowledge and competency in pool plant operations as well as knowledge and competency in internal quality assurance.

An IQA must hold:

1. An STA Level 3 Award in Pool Plant Operations qualification (or acceptable equivalent) and/or experience as shown in Appendix 1
2. Attend a STA IQA training day or hold a recognised internal quality assurance qualification as shown in Appendix 2.

Note: IQAs cannot quality assure a course for which they were a learner, the tutor and / or assessor.

Resource Requirements

Venue:

- Room size: Adequate space for all learners on the course to undertake theory and practical work
- Seats: One per learner
- Writing surfaces - Adequate for each learner to make notes
- Toilets: Separate facilities for male and female learners
- Ventilation - Should be adequate
- Lighting: Should be suitable for reading, combining a mixture of natural and artificial light
- Heating - Should maintain a 'shirt sleeve' environment, minimum temperature 16°C
- Access / Exits: Should be safe, well lit and cater for people with special needs
- Cleanliness: Maintain a clean, tidy and hygienic environment
- Noise: Consider whether there is noise that may distract learners from training

Location:

- Where possible the lecture venue should be in close proximity to the pool plant room.

Minimum requirements:

- Laptop
- PowerPoint presentation
- Projector
- Pool testing equipment: Photometer or comparator - ratio 1:8
  (1 to every 8 learners on the course)
  (Sufficient number of tablets and test tubes for the number of learners on the course).

Recommended:

- Dry wipe board
- Flipchart.

Equipment Service and Maintenance

Ensure all electrical equipment is in safe working order, serviced and maintained in line with statutory requirements, such as Portable Appliance Test (PAT), Provision and Use of Work Equipment Regulations (PUWER).

Follow manufacturers guidance on regular in-service and ongoing maintenance requirements for all course equipment.

It is important to be aware of the trip hazards associated with electric cables and reduce such risks.

Unit Specification

Unit Title:	Principles of healthy and hygienic pool water
Unit Aim:	This unit aims to develop knowledge of the different types of pools, associated pollution and how to maintain healthy and hygienic pool water.
Learning Outcome - The learner will:	**Assessment Criteria - The learner can:**
1. Know the different types of commercial pools and recreational water systems associated with pool plant operations	1.1 List a range of commercial pool and recreational water system types
2. Know the different types of pollution found in swimming pools and recreational water	2.1 State the categories of pollution found in swimming pools and recreational water 2.2 Give examples of pollution for each category 2.3 Identify the diseases and infections that can be contracted in the swimming pool and recreational water environment
3. Understand the practices recommended to promote healthy, hygienic swimming / bathing	3.1 Describe the actions to promote healthy swimming 3.2 Summarise the advantages of good bather hygiene
4. Know how to deal with contamination of faeces, blood and vomit	4.1 Explain the dangers of cryptosporidium in swimming pools and its key characteristics 4.2 Identify the procedures for dealing with the following contamination in the pool: • Solid faeces • Runny faeces • Vomit • Blood
5. Understand the importance of cleanliness and hygiene in the pool environment	5.1 State the recommended frequency that the pool surround should be cleaned 5.2 State the methods and frequency for cleaning the pool bottom 5.3 Identify ways of preventing algae in the pool

Unit Specification

Unit Title:	Principles of pool water testing
Unit Aim:	This unit aims to provide the skills and knowledge to carry out regular water tests, understand the variety of tests required, how to record the results and what action to take for the different results.
Learning Outcome - The learner will:	**Assessment Criteria - The learner can:**
1. Be able to carry out pool water testing	1.1 Demonstrate how to conduct a range of water tests and record results 1.2 Calculate and record combined chlorine levels
2. Understand basic pool water testing	2.1 Identify the different types of test equipment 2.2 State the methods for taking pool water samples 2.3 Interpret test results that are acceptable and what action to take for unacceptable results 2.4 State how long records should be kept for
3. Understand other chemical factors to be tested in swimming pools and recreational water systems	3.1 Describe the importance of knowing the properties of the source water 3.2 State the factors that must be tested to conduct a balanced water / langelier test 3.3 Explain the objectives of acceptable water balance parameters 3.4 State the ideal range for total alkalinity 3.5 State the ideal range for calcium hardness 3.6 State the recommended maximum TDS level above the source water 3.7 State the recommended frequency for various required tests to be undertaken 3.8 State the recommended levels for various required tests to be kept to
4. Understand the requirements for microbiological testing	4.1 Describe the purpose of microbiological testing 4.2 State the frequency pools should be microbiologically tested 4.3 Identify how E-coli, Pseudomonas aeruginosa and legionella can be prevented in the pool and recreation environment 4.4 Identify what action to take upon receiving unsatisfactory microbiological results, indicating gross contamination

Unit Title:	Principles of disinfection, pool chemistry and dosing in pool plant operations
Unit Aim:	This unit aims to provide an understanding of disinfection, other chemicals used in pool plant operations and dosing practices.
Learning Outcome - The learner will:	**Assessment Criteria - The learner can:**
1. Understand the principles of pool chemicals	1.1 Explain the purpose of residual disinfection in pools 1.2 Explain breakpoint chlorination 1.3 Explain the significance of pH to disinfection 1.4 Categorise the different chemicals used in pools
2. Understand the systems used for non-residual disinfection	2.1 State the systems used for non-residual disinfection 2.2 Describe the effects of non-residual disinfection
3. Understand the key principles in dosing chemicals	3.1 Summarise dosing practices 3.2 Describe how to recalibrate an automatic dosing unit 3.3 Work out dose strength calculations 3.4 Identify when manual dosing might be required

Unit Specification

Unit Title:	Principles of mechanical pool plant operations
Unit Aim:	This unit aims to provide an understanding of the different mechanisms required in the safe operation of the pool plant for swimming pools, spas and interactive play features.
Learning Outcome - The learner will:	**Assessment Criteria - The learner can:**
1. Understand the design considerations for the operation of swimming pools, spas and interactive water features	1.1 Indicate on a schematic diagram of a pool plant system: • The direction of water flow • Key features 1.2 Identify the equipment in a spa plant system 1.3 Identify the equipment in an interactive water feature plant system
2. Understand the principles of circulation	2.1 Work out the following: • Maximum bather load • Operational daily maximum bather load • Circulation Rate • Turnover 2.2 Evaluate the methods of surface water removal 2.3 Describe the function of a balance tank 2.4 Explain the dangers of inlets and outlets 2.5 Summarise the checks that should be carried out on inlets and outlets 2.6 Identify different types of valves
3. Know the temperature recommendations for different pools	3.1 Identify the water temperature recommendations for different pools
4. Understand the principles of filtration	4.1 Summarise the importance of maintaining the clarity of the water 4.2 Identify the different features of medium and high rate filters 4.3 Identify the different parts of a filter 4.4 Identify the processes involved when backwashing 4.5 Describe the flocculation / coagulation process: 4.6 State the recommended dilution rate per bather
5. Understand the hazards associated with spa pools and interactive water features	5.1 Summarise the hazards commonly associated with spa pools and interactive water features

Unit Title:	Swimming pool heating, ventilation and energy efficiency
Unit Aim:	This unit aims to provide an understanding of the environmental considerations and implications of operating a pool plant.
Learning Outcome - The learner will:	**Assessment Criteria - The learner can:**
1. Understand the principles of heating and air circulation	1.1 Summarise the recommendations for pool hall temperature and relative humidity 1.2 Summarise the potential problems operators could face if they don't monitor and maintain the water and air temperature at the recommended levels
2. Understand the environmental considerations and implications of operating a pool plant	2.1 Describe the environmental implications of operating a pool plant 2.2 Explain how operators can improve energy efficiency 2.3 State systems that can be used to run an economic, energy efficient and effective pool plant

Unit Specification

Unit Title:	Management practices and health and safety in pool plant operations
Unit Aim:	This unit aims to provide an understanding of the management practices and health and safety requirements to ensure safe pool plant operations.
Learning Outcome - The learner will:	**Assessment Criteria - The learner can:**
1. Know about the management practices and training requirements for safe operation	1.1 State the documents recommended to be included in a pool safety operating procedure 1.2 Summarise the training requirements to safely operate a pool plant
2. Understand how to work safely with pool chemicals	2.1 State the HSE's five steps to risk assessment 2.2 List the control measures that must be in place to ensure the safe use of chemicals
3. Understand PPE requirements	3.1 Explain why PPE is used 3.2 Describe how PPE should be stored
4. Know the operators' responsibilities under the Health and Safety at Work Act 1974	4.1 List health and safety legislation/ regulation pool operators should be aware of
5. Know the maintenance procedures and timelines for effective operation of pool plant equipment	5.1 Identify the recommended minimum frequency various maintenance tasks should be carried out 5.2 Summarise the importance of recording maintenance tasks

Appendix 1

Occupational Knowledge and Competence in Pool Plant
This may be evidenced by:

- Holding a qualification issued by an Ofqual/SQA Accreditation / Qualifications Wales / CCEA Regulation recognised Awarding Organisation/Body (or equivalent1) as follows:

Qualification delivered:	Minimum qualification to be held by the Trainer/Assessor/IQA/EQA: [1]
STA Level 3 Award in Pool Plant Operations STA Level 2 Award in Swimming Pool Water Treatment STA Level 2 Award in Swimming Pool Water Testing	STA Pool Plant Operations or an equivalent STA IQA training or formal IQA certificate STA EQA training or formal EQA certificate

Appendix 2

Qualifications suitable for Internal Quality Assurance

L&D Unit 11 Internally Monitor and Maintain the Quality of Workplace Assessment SCQF Level 8 (SQA Accredited)
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
Conduct the Internal Verification Process SCQF Level 8 (SQA Unit)
Regulated Qualifications based on the Learning and Development NOS 11 Internally Monitor and Maintain the Quality of Assessment
V1 Conduct Internal Quality Assurance of the Assessment Process or D34 Internally Verify the Assessment Process
Internally Verify the Assessment Process SCQF Level 8 (SQA Unit)

NOTE: IQA's who do not hold a formal IQA qualification may alternatively attend Internal Quality Assurance CPD Training with an Awarding Organisation / Body.

Appendix 3

Qualifications suitable for External Quality Assurance

L&D Unit 12 Externally Monitor and Maintain the Quality of Workplace Assessment SCQF Level 9 (SQA Accredited)
Regulated qualifications based on the Learning and Development NOS 12 Externally Monitor and Maintain the Quality of Assessment
Level 4 Award in the External Quality Assurance of Assessment Processes and Practice
Level 4 Certificate in Leading the External Quality Assurance of Assessment Processes and Practice
Conduct External Verification of the Assessment Process SCQF Level 9 (SQA Unit)
V2 Conduct External Quality Assurance of the Assessment Process or D35 Externally Verify the Assessment Process
Externally Verify the Assessment Process SCQF Level 9 (SQA Unit)