Level 5 Certificate in Management of Water Production

Qualification Specification

Contents

Introduction

The **Level 5 Certificate in Management of Water Production** is aimed at candidates engaged in the management of water treatment processes and who are responsible for ensuring compliance with water industry regulators.

The Regulated Qualifications Framework (RQF) is the single framework for regulated qualifications, the regulatory body for this qualification is the Office of Qualifications and Examinations Regulation (Ofqual). This qualification is accredited onto the RQF.

Qualification Profile

Qualification title	**ProQual Level 5 Certificate in Management of Water Production**
Ofqual qualification number	603/2864/2
Level	Level 5
Total qualification time	200 hours
Credits	20 credits
Guided learning hours	200
Assessment	Pass or fail Assessed and verified by centre staff External quality assurance by ProQual verifiers
Qualification start date	15/1/2018
Qualification end date	

Entry Requirements

There are no formal entry requirements for this qualification. Centres should carry out an **initial assessment** of candidate skills and knowledge to identify any gaps and help plan the assessment.

Qualification Structure

To achieve the qualification candidates must complete the TWO Mandatory units.

Unit Reference Number	Unit Title	Credits	Unit Level	GLH
K/616/8356	Understanding water production	10	5	100
T/616/8358	Manage water production	10	5	100

Centre Requirements

Centres must be approved to offer this qualification. If your centre is not approved please complete and submit form **ProQual Additional Qualification Approval Application**.

Staff
Staff delivering this qualification must be appropriately qualified and occupationally competent.

Assessors/Internal Quality Assurance
For each competence-based unit centres must be able to provide at least one assessor and one internal quality assurance verifier who are suitably qualified for the specific occupational area. Assessors and internal quality assurance verifiers for competence-based units or qualifications will normally need to hold appropriate assessor or quality assurance verifier qualifications, such as:

- ProQual Level 3 Certificate in Teaching, Training and Assessing
- Award in Assessing Competence in the Work Environment
- Award in Assessing Vocationally Related Achievement
- Certificate in Assessing Vocational Achievement
- Award in the Internal Quality Assurance of Assessment Processes and Practices
- Certificate in Leading the Internal Quality Assurance of Assessment Processes and Practices

Support for Candidates

Materials produced by centres to support candidates should:

- enable them to track their achievements as they progress through the learning outcomes and assessment criteria;
- provide information on where ProQual's policies and procedures can be viewed;
- provide a means of enabling Internal and External Quality Assurance staff to authenticate evidence

Assessment

Candidates must demonstrate the level of knowledge and/or skills described in the units. Assessment is the process of measuring a candidate's knowledge and understanding against the standards set in the qualification.

Each candidate is required to produce evidence which demonstrates their achievement of all of the learning outcomes and assessment criteria for each unit.

Evidence could include:

- observation report by assessor
- assignments/projects/reports
- professional discussion
- witness testimony
- record of oral and written questioning
- Recognition of Prior Learning

Learning outcomes set out what a candidate is expected to know, understand or be able to do. **Assessment criteria** specify the standard a candidate must meet to show the learning outcome has been achieved.

Learning outcomes and assessment criteria for this qualification can be found from page 7 onwards.

To achieve this qualification all candidates must produce evidence which demonstrates their achievement of all of the assessment criteria.

There must be valid, authentic and sufficient for all the assessment criteria. However, one piece of evidence may be used to meet the requirements of more than one learning outcome or assessment criterion.

Simulations are permitted where candidates, during the course of their qualification, are not able to provide evidence from naturally occurring events.

Internal Quality Assurance

An internal quality assurance verifier confirms that assessment decisions made in centres are made by competent and qualified assessors, that they are the result of sound and fair assessment practice and that they are recorded accurately and appropriately.

Adjustments to Assessment

Adjustments to standard assessment arrangements are made on the individual needs of candidates. ProQual's Reasonable Adjustments Policy and Special Consideration Policy sets out the steps to follow when implementing reasonable adjustments and special considerations and the service that ProQual provides for some of these arrangements. Centres should contact ProQual for further information or queries about the contents of the policy.

Results Enquiries and Appeals

All enquiries relating to assessment or other decisions should be dealt with by centres, with reference to ProQual's Enquiries and Appeals Procedures.

Certification

Candidates who achieve the requirements for qualifications will be awarded:

- A certificate listing the units achieved, and
- A certificate giving the full qualification title -

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Claiming certificates
Centres may claim certificates for candidates who have been registered with ProQual and who have successfully achieved the requirements for a qualification. All certificates will be issued to the centre for successful candidates.

Unit certificates
If a candidate does not achieve all of the units required for a qualification, the centre may claim a unit certificate for the candidate which will list all of the units achieved.

Replacement certificates
If a replacement certificate is required a request must be made to ProQual in writing. Replacement certificates are labelled as such and are only provided when the claim has been authenticated. Refer to the Fee Schedule for details of charges for replacement certificates.

Learning Outcomes and Assessment Criteria

Unit K/616/8356
Understanding water production

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1	Understand regulatory Licence compliance requirements and Water Quality standards applicable to water production	1.1	Explain the regulatory framework pertaining to water production
		1.2	Explain the licensing requirements for provision of potable water to customers
		1.3	Explain the Water Quality standards applicable to clean water production
		1.4	Explain regulatory quality compliance and financial reporting requirements in relation to water production
		1.5	Explain how Corporate Governance needs to operate to ensure compliance with regulatory requirements for water production
2	Understand best practice for abstraction of raw water	2.1	Describe raw water types
		2.2	Explain catchment management best practice
		2.3	Describe the facilities and best practice involved with the abstraction of raw water
		2.4	Explain best practice for Raw Water abstraction
3	Understand best practice for clarification of water	3.1	Explain the principles and mechanism of coagulation and flocculation and its function in the clarification process of water treatment
		3.2	Describe the different types of plant and processes used in clarification and the factors which could influence the choice of process used
		3.3	Describe the different types of clarification plants and why they are chosen, the common issues of plant performance and how these can be overcome and optimised
4	Understand best practice for filtration of water	4.1	Explain the principles and mechanisms of the filtration processes

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
		4.2	Describe the different types of filtration plant, and why they are chosen the common issues of plant performance and how these can be overcome and optimised
5	Understand best practice for disinfection of water	5.1	Explain the reasons for disinfection and a range of processes available
		5.2	Explain the mechanisms in disinfection for a range of processes
		5.3	Describe the variables that influence disinfection performance
		5.4	Describe the monitoring and testing of supplies to demonstrate disinfection success
		5.5	Explain the causes of disinfection failures and the requirements for compliance reporting
6	Understand best practice for ancillary treatment and waste treatment	6.1	Explain the principles and mechanisms of ancillary and sludge treatment
		6.2	Describe the different types of ancillary and sludge treatment plant and why they are chosen, the common issues of plant performance and how these can be overcome and optimised
7	Understand best practice for process control of water treatment	7.1	Explain the principles and mechanisms for process control of water treatment
		7.2	Describe the different types of process control mechanisms and why they are chosen, the common issues of mechanism performance and how these can be overcome and optimised
8	Understand best practice for chemical storage	8.1	Describe the hazards of chemicals used in the treatment process
		8.2	Describe a range of personal protection equipment (PPE) which may be used
		8.3	Describe the safe working procedures in the organisation for delivery, storing and handling a range of chemicals
9	Understand hydraulic principles in relation to clean water treatment	9.1	Explain the application and importance of hydraulics for water treatment

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
		9.2	Apply units and perform essential arithmetical operations for hydraulic calculations
		9.3	Explain fundamental hydraulic principles including the Quantinuity Equation, hydraulic forces, energy conservation and energy friction losses
		9.4	Explain pump curves and system curves
		9.5	Perform hydraulic calculations relevant to clean water treatment
10	Understand engineering principles in relation to clean water treatment	10.1	Explain the basic electrical theory and principle and engineering practices to ensure the safe operation and isolation of electrical and mechanical plant
		10.2	Explain the requirements and applicability of plant maintenance regimes within the water industry including the role and importance of first line maintenance
11	Understand best practice for dealing with failures or problems arising with treatment processes	11.1	Explain how to identify and evaluate process operations outside normal parameters of operation
		11.2	Explain necessary actions that may be required to safeguard the health of customers
12	Understand the compilation of compliance reports intended for regulatory reporting	12.1	Explain the collection, validation and collation of compliance data for regulatory reporting
		12.2	Explain the analysis of compliance data for regulatory reporting
		12.3	Explain the production of compliance reports intended for regulatory reporting

Assessment

There must be valid, authentic and sufficient for all the assessment criteria. However, one piece of evidence may be used to meet the requirements of more than one learning outcome or assessment criterion.

Unit T/616/8358
Manage water production

Learning Outcome - The learner will:		Assessment Criterion - The learner can:	
1	Plan to comply with regulatory requirements for water production for their area of responsibility within their organisation	1.1	Assess current and future regulatory requirements for water production
		1.2	Plan action to ensure ongoing and future compliance with regulatory requirements for water production
2	Manage water production for their area of responsibility within their organisation	2.1	Take action to ensure ongoing compliance with regulatory requirements for water production
		2.2	Take action to ensure ongoing efficiency of water production
		2.3	Take action to support the implementation of aspects of corporate governance relevant to water production
		2.4	Monitor regulatory compliance and efficiency of water production
		2.5	Provide feedback to colleagues on regulatory compliance and efficiency of water production
3	Take action to deal with failures or problems arising with treatment processes for their area of responsibility within their organisation	3.1	Identify and evaluate process operations outside normal parameters of operation
		3.2	Take necessary action to safeguard the health of consumers
		3.3	Facilitate technical resolution of issues
4	Take action to ensure implementation of best practice for water treatment for their area of responsibility within their organisation	4.1	Identify opportunities for enhancements of water treatment processes
		4.2	Take action to enhance water treatment processes
5	Contribute to the management of the relationship with the regulators of water production	5.1	Manage the collection, validation, collation and analysis of compliance data for regulatory reporting
		5.2	Manage the compilation of compliance reports intended for regulatory reporting

Assessment

There must be valid, authentic and sufficient for all the assessment criteria. However, one piece of evidence may be used to meet the requirements of more than one learning outcome or assessment criterion.

All assessment criteria in this unit relate to the candidate's area of responsibility within their organisation.

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