ICTQual AB

Qualification Specification

ICTQual AB Level 3 Certificate in Quality Control Software Development

Website
www.ictqualab.co.uk

Email:
support@ictqualab.co.uk

ICTQual AB's

Level 3 Certificate in Quality Control Software Development

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Qualification Specification about

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About ICTQual AB's

ICTQual AB is a distinguished awarding body based in the United Kingdom, dedicated to fostering excellence in education, training, and skills development. Committed to global standards, ICTQual AB's provides internationally recognized qualifications that empower individuals and organizations to thrive in an increasingly competitive world. Their offerings span diverse industries, including technical fields, health and safety, management, and more, ensuring relevance and adaptability to modern workforce needs.

ICTQual AB's delivers high-quality educational solutions through a network of Approved Training Centres worldwide. Their robust standards and innovative teaching methodologies equip learners with practical knowledge and skills for personal and professional growth. With a mission to inspire lifelong learning and drive positive change, ICTQual AB's continuously evolves its programs to stay ahead of industry trends and technological advancements.

Course Overview

The ICTQual AB Level 3 Certificate in Quality Control – Software Development is designed to provide learners with foundational knowledge and practical understanding of quality assurance techniques in software development environments. The programme introduces the principles, standards, and tools used in the implementation of quality control measures throughout the software development lifecycle. Learners will gain insight into testing methodologies, error detection processes, documentation practices, and the role of continuous improvement within quality systems. Through structured learning, participants will be exposed to internationally recognised standards, compliance procedures, and quality auditing principles applicable to software development contexts. The emphasis is placed on equipping learners with real-world skills that are aligned with industry expectations and technological advancements. This certificate fosters awareness of quality-driven thinking, promotes discipline in maintaining consistent standards, and develops the ability to contribute effectively to software quality teams. Learners will also explore risk assessment, defect prevention strategies, and the integration of quality controls in agile and traditional development methodologies.

Course Aim

The primary aim of this qualification is to prepare learners for active participation in software development teams by building their capacity to apply quality control concepts and techniques. It seeks to ensure that learners understand the importance of delivering reliable, efficient, and compliant software solutions by embedding quality at every stage of development. This includes fostering a mindset of proactive testing, thorough documentation, and continuous verification against quality benchmarks.

For Whom This Course is For

This course is ideally suited for:

- Aspiring quality control professionals interested in entering the field of software development.
- Junior developers or software testers looking to formalise their understanding of quality practices.
- Technical support staff transitioning to software QA roles.
- Recent school leavers or college graduates seeking foundational skills in software quality assurance.
- Individuals aiming to pursue higher-level qualifications in software quality engineering, auditing, or compliance.

No prior formal experience in software development is required, although basic familiarity with computing principles will be beneficial. The course provides a structured pathway into quality control roles and supports future progression into advanced certification programmes.

Certification Framework

Qualification title	ICTQual AB Level 3 Certificate in Quality Control Software Development
Course ID	QC0032
Grading Type	Pass / Fail
Competency Evaluation	Coursework / Assignments / Verifiable Experience
Assessment	The assessment and verification process for ICTQual AB's qualifications involves two key stages: **Internal Assessment and Verification:** ✓ Conducted by the staff at the Approved Training Centre (ATC) to ensure learners meet the required standards through continuous assessments. ✓ Internal Quality Assurance (IQA) is carried out by the centre's IQA staff to validate the assessment process. **External Quality Assurance:** ✓ Managed by ICTQual AB's verifiers, who periodically review the centre's assessment and IQA processes. Verifies that assessments are conducted to the required standards and ensures consistency across centres

Entry Requirements

To enrol in ICTQual AB Level 3 Certificate in Quality Control Software Development, applicants must meet the following entry requirements:

- ✓ **Age Requirement:** Learners must be 18 years of age or older.
- ✓ **Educational Background:** A basic secondary school education (high school level or equivalent) is required. Applicants should ideally have completed a Level 2 qualification or have prior exposure to IT, computer science, or related subjects.
- ✓ **Work Experience:** This course is suitable for beginners and does not require prior experience in coding or software development.
- ✓ **English Proficiency:** Basic proficiency in English is required to understand course materials and complete assessments.

These entry requirements make the qualification accessible to school leavers, career changers, and working professionals who want to build a solid foundation in software quality control.

Qualification Structure

This qualification comprises 3 mandatory units. Candidates must successfully complete all mandatory units to achieve the qualification.

Mandatory Units	
Unit Ref#	Unit Title
QC0032-01	Fundamentals of Software Quality Assurance
QC0032-02	Software Development Life Cycle (SDLC) and Testing Methods
QC0032-03	Defect Tracking and Reporting Systems

Centre Requirements

To ensure quality training delivery, centres must adhere to the following standards:

1. Centre Approval

- ✓ Centres must be formally approved by ICTQual AB's before delivering this qualification.

- ✓ Approval involves a review of facilities, policies, and staff qualifications.

2. Qualified Staff

- ✓ **Tutors:** must possess relevant academic qualifications (minimum Level 4 in Software Development or Quality Assurance) and/or extensive industry experience in software quality control or software testing roles.

- ✓ **Assessors:** Must hold a recognized assessor qualification (e.g., CAVA, AVRA) or equivalent)

- ✓ **Internal Quality Assurers (IQAs):** Must hold a recognized IQA qualification (e.g. Level 4 Award in the IQA and Level 4 Certificate in Leading the IQA) and experience to oversee assessment standards.

3. Learning Facilities

Centre must offer:

- ✓ Private study areas and internet-enabled workspaces (for blended or physical delivery)
- ✓ Academic and pastoral support for learners
- ✓ Administrative support must be available to manage enrolment, tracking, and learner queries efficiently

4. Health and Safety Compliance

- ✓ All training facilities must comply with health and safety regulations.

- ✓ Centres must conduct regular risk assessments for practical activities.

5. Learning Resources

✓ **Course Materials:** Approved textbooks, study guides, and digital content must align with the qualification standards.

✓ **Assessment Tools:** Templates and guidelines must be provided to ensure standardized evaluation processes.

✓ **E-Learning Support:** Centres offering online or blended learning must implement an effective Learning Management System (LMS).

6. Assessment and Quality Assurance

✓ Centres must ensure assessments meet ICTQual AB's competency standards.

✓ Internal quality assurance (IQA) must be conducted to maintain consistency.

✓ External verifiers from ICTQual AB's will review assessment and training practices.

7. Learning Support

✓ **Qualification Guidance:** Support for coursework and assignments.

✓ **Career Pathway Assistance:** Information on progression opportunities in sustainability and energy sectors.

✓ **Accessibility Support:** Accommodations for learners with disabilities or language barriers.

8. Policies and Compliance

Centres must uphold the following policies in accordance with ICTQual AB's standards:

✓ Equality, Diversity, and Inclusion Policy.

✓ Health and Safety Policy.

✓ Safeguarding and Learner Protection Policy.

✓ Complaints and Appeals Procedure.

✓ Data Protection and Confidentiality Policy.

9. Reporting Requirements

• Centres must provide ICTQual AB's with regular reports on learner registrations, progress, and certification outcomes.

• Assessment records must be maintained for external auditing and quality assurance purposes.

Support for Candidates

Centres should ensure that materials developed to support candidates:

- ✓ Facilitate tracking of achievements as candidate's progress through the learning outcomes and assessment criteria.
- ✓ Include information on how and where ICTQual AB's policies and procedures can be accessed.
- ✓ Provide mechanisms for Internal and External Quality Assurance staff to verify and authenticate evidence effectively.

This approach ensures transparency, supports candidates' learning journeys, and upholds quality assurance standards.

Assessment

This qualification is competence-based, requiring candidates to demonstrate proficiency as defined in the qualification units. The assessment evaluates the candidate's skills, knowledge, and understanding against the set standards. Key details include:

1. **Assessment Process:**

   - ✓ Must be conducted by an experienced and qualified assessor.
   - ✓ Candidates compile a portfolio of evidence that satisfies all learning outcomes and assessment criteria for each unit.

2. **Types of Evidence:**

   - ✓ Observation reports by the assessor.
   - ✓ Assignments, projects, or reports.
   - ✓ Professional discussions.
   - ✓ Witness testimonies.
   - ✓ Candidate-produced work.
   - ✓ Worksheets.
   - ✓ Records of oral and written questioning.
   - ✓ Recognition of Prior Learning (RPL).

3. **Learning Outcomes and Assessment Criteria:**

   - ✓ **Learning Outcomes:** Define what candidates should know, understand, or accomplish upon completing the unit.
   - ✓ **Assessment Criteria:** Detail the standards candidates must meet to demonstrate that the learning outcomes have been achieved.

This framework ensures rigorous and consistent evaluation of candidates' competence in line with the qualification's objectives.

Unit Descriptors

QC0032-01- Fundamentals of Software Quality Assurance

This unit introduces learners to the basic ideas and principles of software quality assurance (SQA). It explains why quality is important in software and how quality is maintained throughout development. Learners will explore key terms such as quality control, assurance, verification, and validation. They will also learn about the role of SQA in preventing errors, reducing defects, and improving customer satisfaction. The unit focuses on how SQA works with development teams to ensure that software is reliable, secure, and meets user needs. Common quality standards and industry practices will be introduced in an easy-to-understand way.

Learning Outcome:	Assessment Criteria:
1. Understand the core principles and objectives of software quality assurance (SQA).	1.1 State the main principles of Software Quality Assurance. 1.2 List at least three main objectives of SQA. 1.3 Describe the difference between software testing and SQA. 1.4 Explain the purpose of quality standards in software development.
2. Identify the roles and responsibilities of QA professionals within the development process.	2.1 Name the primary role of a QA professional. 2.2 Describe three key responsibilities of a QA professional. 2.3 Identify how a QA professional works with a developer. 2.4 Explain how a QA professional helps the project manager. 2.5 State the importance of clear communication for a QA professional.
3. Recognize the importance of quality control in software project success.	3.1 Explain why quality control is necessary for a successful project. 3.2 Provide examples of risks that are reduced by quality control. 3.3 Describe how quality control helps to satisfy customer needs. 3.4 Explain the impact of a lack of quality control on a software product.
4. Apply basic quality assurance concepts to real-world software environments	4.1 Create a simple checklist for a software product's quality check. 4.2 Give an example of a quality assurance process in a given scenario. 4.3 Explain how to verify a feature works as intended.

4.4 Suggest a basic SQA activity for a small development project.

4.5 Demonstrate how a quality check can be performed on a software product.

QC0032-02- Software Development Life Cycle (SDLC) and Testing Methods

This unit explains the software development life cycle (SDLC) and how testing fits into each stage. Learners will understand how software is planned, built, tested, and released. They will study different SDLC models, including Waterfall, Agile, and V-Model. The unit also introduces several testing types such as unit testing, integration testing, system testing, and user acceptance testing (UAT). Emphasis is placed on why testing is done, who performs it, and how it helps improve the final software product.

Learning Outcome:	Assessment Criteria:
1. Explain each phase of the Software Development Life Cycle (SDLC).	1.1 Describe the purpose of the planning phase of the SDLC. 1.2 Explain the activities performed in the design phase. 1.3 Describe what happens during the testing phase. 1.4 Explain the role of the maintenance phase.
2. Compare different SDLC models, including Agile, Waterfall, and V-Model.	2.1 Describe the main steps in the Waterfall model. 2.2 Explain the basic concepts of the Agile approach. 2.3 Describe the V-Model and its connection between development and testing. 2.4 State one advantage and one disadvantage for the Waterfall model. 2.5 Explain the key difference between the Agile and Waterfall models.
3. Understand the integration of quality control and testing in each SDLC stage.	3.1 Explain how testing is performed during the design phase of a project. 3.2 Describe the testing that occurs after a product is released. 3.3 Give an example of a quality control activity that is done during the coding phase. 3.4 Explain the importance of a test plan being created early in the project.
4. Identify and apply basic manual testing techniques aligned with project goals.	4.1 Define the term "manual testing." 4.2 Perform a simple smoke test on a given software application. 4.3 Create a test case for a specific feature of an application. 4.4 Describe how to perform regression testing. 4.5 Use a test case to find a bug in a software application.

QC0032-03- Defect Tracking and Reporting Systems

This unit helps learners understand how software bugs or defects are found, tracked, and reported. Learners will explore how defect management tools are used to keep records of bugs, assign them to developers, and follow their progress until they are fixed. The unit also shows how clear communication and proper reporting improve the quality of software. Students will practise writing simple bug reports and learn how to use tracking tools like Jira or Bugzilla.

Learning Outcome:	Assessment Criteria:
1. **Understand the lifecycle of a software defect from discovery to resolution.**	1.1 List the different stages of a defect's lifecycle. 1.2 Describe the state of a bug when it is first discovered. 1.3 Explain the actions taken when a bug is confirmed. 1.4 Describe what happens when a bug is fixed and verified.
2. **Use defect tracking tools to document, categorize, and prioritize bugs.**	2.1 Document a new bug with all necessary details in a tracking tool. 2.2 Categorize a bug as either a high, medium, or low priority. 2.3 Assign a bug to the correct developer in a tracking tool. 2.4 Change the status of a bug from "New" to "In Progress." 2.5 Add a comment to a bug report to provide more information.
3. **Generate professional defect reports for development and QA teams.**	3.1 List the essential parts of a defect report. 3.2 Write a clear and simple summary for a defect. 3.3 Provide clear steps to reproduce a bug in a report. 3.4 Include supporting information, such as screenshots, in a defect report.
4. **Communicate software issues clearly and effectively for corrective action.**	4.1 Explain how to write a clear and understandable bug description. 4.2 Describe the information that is most important to a developer when reporting a bug. 4.3 Give an example of a good subject line for a bug report. 4.4 Explain the importance of providing steps to reproduce the bug. 4.5 Describe how to follow up on a bug report that has not been addressed.

ICTQual AB

Yew Tree Avenue, Dagenham,

London East, United Kingdom RM10 7FN

+447441398083

support@ictqualab.co.uk|www.ictqualab.co.uk

VisitOfficialWebpage