Unit Title: **Testing ICT systems**

OCR unit number: 30

Unit reference number: F/500/7355

Level: 3

Credit value: 12

Guided learning hours: 100

Evidence for this unit can only be achieved through actual work in a work environment. Simulation is not permissible for any competence based unit.

Unit aim

To develop knowledge, understanding and skills to carry out testing of IT systems and provide expertise to others in testing.

Learning Outcomes	Assessment Criteria	Knowledge, understanding and skills

The Learner will:
1 Know technical information about a wide range of products, testing procedures and associated activities, equipment to be used and the reasons for the test
	The Learner can:
	1.1 Describe the testing process to be followed:
	• how to select tests and collect relevant and sufficient information for the test to be successful
	• how to minimise service disruption during testing and avoid detrimental effects or changes to performance
	• ways to configure tests
	• how to record, maintain or restore configurations, data and functionality
	• types of service level agreements
	• individual responsibility and authority
	• escalation procedures and risks associated with using a testing process
	• information analysis
		• the testing process to include:
		  - how to create an appropriate test plan
		  - how to select appropriate tests in order to collate information
		  - timing of the plans and associated timescales
		  - how to configure and record the tests
		  - who to refer to if there is a problem outside of their control
		  - risks involved
		  - how to analyse the information
		• different types of service level agreements and how these can affect the testing that they can carry out
		• the purpose of carrying out tests and how they prepare and conclude testing activities

Learning Outcomes	Assessment Criteria	Knowledge, understanding and skills
	1.2 Describe the purposes of testing: • aiding the diagnostic process • comparing actual and expected performance • testing performance 1.3 Describe what test preparation and conclusion activities are necessary for specific tests, such as: • Health & Safety legislation and regulations • need to obtain work permissions • site access and security • system or equipment integrity (e.g. ensuring network service continuity) • data integrity (e.g. taking data backups before commencing work) • resource availability • level of service allowed by the SLA • environment legislation and regulations (e.g. disposal of materials) • work sign off and reporting • site restoration, system and equipment integrity (e.g. restoring service) • data integrity (e.g restoring data backups as necessary) 1.4 Interpret detailed technical information on a specified range of products	• how to interpret technical information from a range of sources for a range of products

Learning Outcomes	Assessment Criteria	Knowledge, understanding and skills
2 Carry out testing and support others in the testing process	2.1 Provide technical advice to support testing 2.2 Select any necessary preparation and conclusion activities and ensure that they have been completed 2.3 Select, adapt and use appropriate testing tools: • electrical/electronic test instruments • on-board self-test programs • loopback devices • on-line/remote monitoring software • software debuggers • runtime analysers • diagnostic software 2.4 Gather, record and respond to test information and results by: • interpreting error codes/messages • comparing with specifications • identifying inconsistent data • examining results from multiple tests or trend analysis • using analytical tools to extract information from test data	• how to carry out routine testing following test plans produced by them, and support others in the testing process • how to carry out the preparation and conclusion activities as required • how to use a wide range of testing tools based on the requirements of the test plan • how to gather and record test information and interpret results. They must be able to judge the reliability of the results and make judgements based on the results

Assessment

It is the assessor's role to satisfy themselves that evidence is available for all performance, knowledge and evidence requirements before they can decide that a candidate has finished a unit. Where performance and knowledge requirements allow evidence to be generated by other methods, for example by questioning the candidate, assessors must be satisfied that the candidate will be competent under these conditions or in these types of situations in the workplace in the future. Evidence of questions must include a written account of the question and the candidate's response. Observations and/or witness testimonies must be detailed and put the evidence into context i.e. the purpose of the work etc.

In addition to the recognition of other qualifications, candidates may claim accreditation of prior achievement for any of the elements assessment criteria or complete units of competence, as long as the evidence fully meets the criteria and the candidate can prove that it is all their own work. It is important also that assessors are convinced that the competence claimed is still current. If the assessors have some doubts, they should take steps to assess the candidate's competence directly. An initial assessment of candidates is recommended.

All the learning outcomes and assessment criteria must be clearly evidenced in the submitted work, which is externally moderated by OCR.

Results will be Pass or Fail.

Guidance on assessment

Evidence can reflect how the candidate carried out the process or it can be the product of a candidate's work or a product relating to the candidate's competence.

For example: The process that the candidate carries out could be recorded in a detailed personal statement or witness testimony. It is the assessor's responsibility to make sure that the evidence a candidate submits for assessment meets the requirements of the unit.

Questioning the candidate is normally an ongoing part of the assessment process, and is necessary to:

- test a candidate's knowledge of facts and procedures

- check if a candidate understands principles and theories *and*

- collect information on the type and purpose of the processes a candidate has gone through

- candidate responses must be recorded

It is difficult to give a detailed answer to how much evidence is required as it depends on the type of evidence collected and the judgement of assessors. The main principles, however, are as follows: for a candidate to be judged competent in a unit, the evidence presented must satisfy:

- all the items listed, in the section 'Learning Outcomes'

- all the areas in the section 'Assessment Criteria'

The quality and breadth of evidence provided should determine whether an assessor is confident that a candidate is competent or not. Assessors must be convinced that candidates working on their own can work independently to the required standard.

Additional information

For further information regarding administration for this qualification, please refer to the OCR document '*Admin Guide: Vocational Qualifications*' on the OCR website www.ocr.org.uk .