Unit Title:	**Maintaining equipment and IT systems**
OCR unit number:	14
Unit reference number:	J/601/9548
Level:	3
Credit value:	9
Guided learning hours:	70

Unit aim

The aim of this unit is that learners will:

- Understand routine preventative and remedial maintenance procedures for equipment components and sub-assemblies
- Understand health & safety procedures when carrying out routine and remedial maintenance
- Be able to diagnose, locate and repair component faults for identified tasks

Learning Outcomes	**Assessment Criteria**	**Knowledge, understanding and skills**
The Learner will: 1 Understand routine preventative and remedial maintenance procedures for equipment components and sub-assemblies	**The Learner can:** 1.1 Explain the purpose of a range of routine preventative maintenance procedures 1.2 Explain a range of different types of preventative maintenance products and their purpose 1.3 Explain a range of different types of remedial maintenance products and procedures that can be used, including their purpose	• a range of different types of routine and preventative maintenance e.g.: - scanning hard drives - defragmentation - frequent use of antivirus software - update antivirus software • a range of different preventive maintenance products and procedures available e.g.: - CMMS (Computerised Maintenance Management System) - task scheduling software - examples of remedial maintenance e.g.: o replacement of a component o software update

Learning Outcomes	Assessment Criteria	Knowledge, understanding and skills
		• the purpose and use of maintenance documentation e.g.: - accurate back up documents - maintenance records - MSDS (Material Safety Data Sheet) records
2 Understand health and safety procedures when carrying out routine and remedial maintenance	2.1 Explain a range of health and safety regulations and procedures, to include environmental considerations that should be followed when carrying out: • preventative maintenance • remedial maintenance	• a range of standard health and safety procedures when working in an ICT environment • a range of safety procedures relating to maintenance within an ICT environment: - liquid cleansing components - types of materials to clean contacts and connections - non static vacuums (chassis/power supplies/fans) • ESD precautions and procedures e.g.: - high-voltage equipment - power supply - CRTs • methods for the safe disposal of computer equipment e.g.: - batteries - UPS - CRTs - toners/cartridges - circuit boards - chemical solvents and cans • environmental regulations to include: - high-risk equipment - disposal of computer equipment and components - monitors - cleaning products and materials - handling of computer components

Learning Outcomes	Assessment Criteria	Knowledge, understanding and skills
3 Be able to diagnose, locate and repair component faults for identified tasks	3.1 Collect and analyse information to diagnose and locate component faults 3.2 Create and maintain a detailed log to record component faults 3.3 Create and implement a plan to restore specified performance 3.4 Demonstrate that performance has been restored by carrying out appropriate tests and recording the test results	• how to analyse information to diagnose and locate component faults including the use of a range of diagnostic tools • how to develop and implement detailed plans to address component faults to include: - date - fault - location - resources required - constraints - timescales - health and safety/security - escalation • how to develop a series of relevant and appropriate tests to confirm restoration of performance

Assessment

The qualification has been designed to develop knowledge, understanding and skills in the full range of functions involved in the planning and control, hardware, software and systems installation, software solutions and the production of customer support materials. It also provides opportunities for learners to study towards system and network management, to specialise in one or more specific programming languages in addition to being able to take units that are vendor specific.

Each unit within the specification is designed around the principle that candidates will build a portfolio of evidence relating to progression towards meeting the unit assessment objectives. The unit assessment objectives reflect the demands of the learning outcomes for each unit.

In order for candidates to be able to effectively progress towards meeting the requirements of each assessment objective, tutors must make sure that the supporting knowledge, understanding and skills requirements for each objective are fully addressed. The identified knowledge, understanding and skills are not exhaustive and may be expanded upon or tailored to particular contexts to which the unit is being taught and the assessment objective applied.

We recommend that teaching and development of subject content and associated skills be referenced to real vocational situations, through the utilisation of appropriate industrial contact, vocationally experienced delivery personnel, and real life case studies.

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

Candidates do not have to achieve units in any particular order and tutors should tailor learning programmes to meet individual candidate needs. It is recommended that, wherever possible, centres adopt a holistic approach to the delivery of the qualification and identify opportunities to link the units.

Centres are free to deliver this qualification using any mode of delivery that meets the needs of their candidates. Whatever mode of delivery is used, centres must ensure that learners have appropriate access to appropriate resources and consider the candidates' complete learning experience when designing learning programmes. This is particularly important in relation to candidates studying part time alongside real work commitments where candidates may bring with them a wealth of experience that should be utilised to maximum effect by tutors and assessors.

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'

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

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 .

