

2231-03 Diploma for Information Technology and Telecommunications Professionals at SCQF Level 6

Work Based units

April 2013 Version 1.0



Qualification at a glance

Subject area	Information Technology and Telecommunications Professionals
City & Guilds number	2231
Age group approved	16+
Assessment	Portfolio and assignment
Fast track	Available
Support materials	Centre handbook Unit packs Assignments
Registration and certification	Consult the Walled Garden/Online Catalogue for last dates

Title and level	City & Guilds number	Accreditation number
Diploma for Information Technology and Telecommunications Professionals at SCQF Level 6	2231-03	R307 04



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1 Introduction

This unit pack contains the **Work based units** only - Group A

Please see the other two unit packs for the:-

Knowledge – Group B

User - Group C

The Unit packs should be read in conjunction with the Diploma for Information Technology and Telecommunications Professionals at SCQF Level 6 Qualifications handbook for centres, which contains the following important information:

- Introduction to the qualifications
- Centre requirements
- Structure of the qualifications
- Course design and delivery

Barred combinations

Units that have a significant overlap in content are 'barred combinations'. Learners can take units that are barred and they will appear on the learner's Certificate of Unit Credit (CUC), but barred units will not both/all count towards the credit required for a qualification.



2 Units

Structure of units

The units each have the following:

- City & Guilds reference number
- SQA Accreditation number
- title
- level
- credit value
- unit aim
- learning outcomes which are comprised of a number of assessment criteria
- notes for guidance.

You will find the units in separate unit handbooks on our website, separated by the group.

Unit 104

IT and Telecom system operation 1

Accreditation number:	UC32 04
Level:	SCQF 5
Credit value:	9
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Know the technical architecture of an IT or Telecom system
Assessment criteria
The learner can: 1.1 Outline the technical architecture of the system 1.2 List the main physical and logical components of the system 1.3 Identify how system components are physically and logically interconnected 1.4 Identify the external connections of the system 1.5 List the facilities available for monitoring the operation of the system.

Learning outcome
The learner will: 2. Know the expected functionality and capacity of the system
Assessment criteria
The learner can: 2.1 State the qualitative and quantitative measures of system operation 2.2 Identify how the system can be controlled to optimise performance 2.3 Identify how monitoring can be used to measure the qualitative and quantitative operation of the system 2.4 List any routine maintenance or replenishment required to maintain normal system operation.

Learning outcome
The learner will: 3. Assist with the operation of the system
Assessment criteria
The learner can: 3.1 Use specified control facilities correctly to optimise system performance 3.2 Use specified monitoring facilities effectively to identify deviations from normal system operation 3.3 Promptly report deviations for further investigation 3.4 Correctly record specified system performance information.

Learning outcome
The learner will: 4. Assist with system maintenance
Assessment criteria
The learner can: 4.1 Perform specified maintenance activities safely following applicable procedures and regulations 4.2 Accurately keep records of specified maintenance and replenishment activities.

Unit 104 IT and Telecom system operation 1

Supporting information

Guidance

This unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC35 04
Level:	SCQF 5
Credit value:	7
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos .
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills
Aim:	<p>This is the ability to manage ICT systems to ensure that they deliver the required functionality and capacity. A system can be any combination of equipment, hardware and software.</p> <p>System management could involve changing system configuration to meet short-term fluctuations in demand (eg high numbers of calls to specific telephone numbers).</p> <p>It could also involve longer-term changes such as increasing resources (eg processing or storage capacity) to meet anticipated needs and taking account of advances in technology.</p>

Learning outcome
<p>The learner will:</p> <ol style="list-style-type: none"> 1. Know how to administer systems
Assessment criteria
<p>The learner can:</p> <ol style="list-style-type: none"> 1.1 State the functionality of a specified system. 1.2 Identify the components of a specified system 1.3 Identify what system configuration and component asset information is to be recorded and stored 1.4 State how system configuration and component asset information is recorded and stored 1.5 Describe the purpose and use of system management tools. 1.6 State the importance of following product specifications and meeting customer requirements when administering systems. 1.7 Describe the importance of security when administering systems.

Learning outcome
<p>The learner will:</p> <p>2. Be able to administer a system under direction</p>
Assessment criteria
<p>The learner can:</p> <p>2.1 Make specified changes to the system configuration</p> <p>2.2 Follow relevant procedures, including health and safety, when configuring systems.</p> <p>2.3 Confirm that changes made to system configuration are effective.</p> <p>2.4 Gather and record asset and configuration information for specified items.</p>

Learning outcome
<p>The learner will:</p> <p>3. Know how to minimise risks when administering systems</p>
Assessment criteria
<p>The learner can:</p> <p>3.1 Describe how to minimise data loss and corruption when administering systems</p> <p>3.2 State how to minimise the impact on system users when making changes to system configuration</p>

Unit 105 IT and Telecom system management 1

Supporting information

Guidance

This unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Unit 107

Event driven computer programming 1

Accreditation number:	UC40 04
Level:	SCQF 5
Credit value:	8
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Implement software using event driven programming
Assessment criteria
The learner can: 1.1 Declare and initialise variable and data structure types and sizes to implement given requirements 1.2 Assign properties to screen components 1.3 Associate events, including parameter passing, to screen components 1.4 Implement event handling using control structures 1.5 Declare file structures 1.6 Use standard input/output commands to implement design requirements 1.7 Use operators and predefined functions 1.8 Use an Integrated Development Environment (IDE).

Learning outcome
The learner will: 2. Implement software using event driven programming
Assessment criteria
The learner can: 2.1 Follow an agreed standard for naming, comments and code layout 2.2 Implement data validation for inputs 2.3 Implement error handling and reporting 2.4 Create documentation to assist the users of a computer program.

Learning outcome
<p>The learner will:</p> <p>3. Implement software using event driven programming</p>
Assessment criteria
<p>The learner can:</p> <p>3.1 Use the debugging facilities available in the IDE</p> <p>3.2 Determine expected test results from given test data</p> <p>3.3 Compare actual test results against expected results to identify discrepancies.</p>

Unit 107 Event driven computer programming 1

Supporting information

Guidance

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC43 04
Level:	SCQF 5
Credit value:	8
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Implement software using object oriented programming
Assessment criteria
The learner can: 1.1 Select, declare and initialise variable and data structure types and sizes to meet given requirements 1.2 Define relationships between objects 1.3 Implement object behaviours using control structures 1.4 Declare file structures 1.5 Use standard input/output commands 1.6 Use operators and predefined functions 1.7 Make effective use of an Integrated Development Environment (IDE).

Learning outcome
The learner will: 2. Refine an object oriented program to improve quality
Assessment criteria
The learner can: 2.1 Follow an agreed standard for naming, comments and code layout 2.2 Implement data validation for inputs 2.3 Implement error handling and reporting 2.4 Create on-screen help to assist the users of a computer program.

Learning outcome
<p>The learner will:</p> <p>3. Test the operation of an object oriented driven program</p>
Assessment criteria
<p>The learner can:</p> <p>3.1 Use the debugging facilities available in the IDE</p> <p>3.2 Determine expected test results from given test data</p> <p>3.3 Compare actual results against expected results to identify discrepancies.</p>

Unit 108 Object oriented computer programming 1

Supporting information

Guidance

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Unit 109

Procedural computer programming 1

Accreditation number:	UC46 04
Level:	SCQF 5
Credit value:	8
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Implement software using procedural programming
Assessment criteria
The learner can: 1.1 Select, declare and initialise variable and data structure types and sizes to meet given requirements 1.2 Implement control structures 1.3 Declare file structures 1.4 Use standard input/output commands 1.5 Use operators and predefined functions 1.6 Correctly use parameter passing mechanisms.

Learning outcome
The learner will: 2. Refine a procedural program to improve quality
Assessment criteria
The learner can: 2.1 Follow an agreed standard for naming, comments and code layout 2.2 Implement data validation for inputs 2.3 Implement error handling and reporting 2.4 Create documentation to assist the users of a computer program.

Learning outcome
<p>The learner will:</p> <p>3. Test the operation of a procedural program</p>
Assessment criteria
<p>The learner can:</p> <p>3.1 Use available debugging tools</p> <p>3.2 Determine expected test results from given test data</p> <p>3.3 Compare actual test results against expected results to identify discrepancies.</p>

Unit 109 Procedural computer programming 1

Supporting information

Guidance

This unit should be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Unit 110

Investigating and defining customer requirements for IT and Telecoms systems 1

Accreditation number:	UC49 04
Level:	SCQF 5
Credit value:	9
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Know how to investigate and define system requirements
Assessment criteria
The learner can: 1.1 State the types of needs and constraints which need to be identified to inform the design of an IT or Telecoms system 1.2 Identify common investigative methods and the types of information which they can be used to elicit 1.3 State the type of defects which can arise in information 1.4 State the importance of preserving the security and confidentiality of information.

Range
Needs eg: <ul style="list-style-type: none">• data to be stored and processed• functionality in terms of inputs, processes and outputs capacity including numbers of users, throughput, and data storage Investigative methods eg: <ul style="list-style-type: none">• observations• examination of existing documents, records or software• questionnaires• site surveys Defects eg inaccuracy, duplication and omission.

Learning outcome
<p>The learner will:</p> <p>2. Assist with the investigation and definition of system requirements</p>
Assessment criteria
<p>The learner can:</p> <p>2.1 Correctly use specified investigative methods under direction</p> <p>2.2 Accurately record gathered information using specified documentation</p> <p>2.3 Review specified information to identify defects</p> <p>2.4 Analyse specified information to identify current functionality and capacity needs</p> <p>2.5 Accurately record the results of analyses using standard documentation</p> <p>2.6 Follow organisational procedures to preserve the security and confidentiality of information.</p>

Unit 110 Investigating and defining customer requirements for IT and Telecoms systems 1

Supporting information

Guidance

LO2 of this unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Unit 111

Remote support for IT and Telecoms products or services 1

Accreditation number:	UC52 04
Level:	SCQF 5
Credit value:	6
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Know the role of remote support in the organisation
Assessment criteria
The learner can: 1.1 State the products or services to be supported 1.2 List the standard features and common uses of the products or services 1.3 Identify the main benefits of the products or services 1.4 Identify frequently used product or service configuration options 1.5 Identify organisational requirements and procedures for remote support.

Learning outcome
The learner will: 2. Provide remote support for specified products or services
Assessment criteria
The learner can: 2.1 Promptly confirm the customer's identity 2.2 Correctly validate the request for support 2.3 Accurately identify the customer's support needs 2.4 Provide sufficient relevant information to meet the customer's needs, confirming their understanding of the information provided 2.5 Where customer needs are not met, promptly escalate the request to the relevant persons 2.6 Accurately record specified customer support information using given formats 2.7 Follow organisational procedures when providing support to customers.

Unit 111 Remote support for IT and Telecoms products or services 1

Supporting information

Guidance

This unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Unit 112

IT and Telecoms fault diagnosis 1

Accreditation number:	UC55 04
Level:	SCQF 5
Credit value:	6
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Know the technical fault diagnosis process
Assessment criteria
The learner can: 1.1 State the role of fault validation, information gathering, information analysis and solution identification in the fault diagnosis process 1.2 List the types of information that are commonly needed to support the fault diagnosis process 1.3 Describe common diagnostic methods 1.4 State the importance of minimising disruption to service during diagnostics.

Learning outcome
The learner will: 2. Understand the organisational fault diagnosis environment
Assessment criteria
The learner can: 2.1 Identify organisational tools and procedures for fault diagnosis 2.2 List sources of relevant specialist technical information and advice.

Learning outcome
<p>The learner will:</p> <p>3. Diagnose faults in familiar IT or Telecoms equipment</p>
Assessment criteria
<p>The learner can:</p> <p>3.1 Use existing diagnostic information to identify fault indications and possible causes</p> <p>3.2 Correctly use specified diagnostic tools to generate additional diagnostic information</p> <p>3.3 Use available diagnostic and technical information to identify the probable cause of faults</p> <p>3.4 Select, from given alternatives, a suitable remedy to rectify identified faults</p> <p>3.5 Accurately record fault diagnosis activities using standard documentation</p> <p>3.6 Follow organisational procedures during fault diagnosis activities.</p>

Unit 112 IT and Telecoms fault diagnosis 1

Supporting information

Guidance

Outcomes 2 and 3 of this unit must be assessed in the workplace.
Further guidance is set out in the CBQ Assessment principles developed
by e-skills UK and agreed by the Joint Awarding Body Forum.

Unit 113

Testing IT and Telecoms systems 1

Accreditation number:	UC58 04
Level:	SCQF 5
Credit value:	6
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Know the principles of IT and Telecoms testing
Assessment criteria
The learner can: 1.1 Identify the purposes of testing and the applicability of common classes of test 1.2 State preparation and conclusion activities associated with testing 1.3 Identify organisational requirements and procedures for testing and available test equipment and software.

Learning outcome
The learner will: 2. Prepare for the testing of system components
Assessment criteria
The learner can: 2.1 Correctly identify the specified components to be tested 2.2 Correctly prepare any test equipment or software to be used.

Learning outcome
<p>The learner will:</p> <p>3. Assist with the testing of system components</p>
Assessment criteria
<p>The learner can:</p> <p>3.1 Correctly implement specified preparations prior to carrying out tests</p> <p>3.2 Correctly apply planned inputs making effective use of test equipment or software</p> <p>3.3 Accurately record outputs from system and test equipment or software</p> <p>3.4 Accurately record, and where necessary promptly respond to, any errors arising during the test</p> <p>3.5 Correctly implement specified activities following the completion of testing</p> <p>3.6 Identify all discrepancies between actual and expected outputs.</p>

Unit 113 Testing IT and Telecoms systems 1

Supporting information

Guidance

Outcomes 2 and 3 must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Unit 115

IT and Telecoms system security 1

Accreditation number:	UC62 04
Level:	SCQF 5
Credit value:	4
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills
Aim:	The aim of this unit is to provide an understanding of the main threats to security of IT systems and data and how to protect against them. The learner will consider the security measures in place in an organisation and contribute to the maintenance of system security.

Learning outcome
The learner will: 1. Know threats to IT and Telecoms systems
Assessment criteria
The learner can: 1.1 List common types of physical threat to systems and data 1.2 List common types of electronic threats to systems and data 1.3 State the effects of common types of malicious code.

Learning outcome
The learner will: 2. Know how to protect IT and Telecoms systems
Assessment criteria
The learner can: 2.1 Identify methods of providing physical access control and security 2.2 Identify methods of providing electronic access control and security 2.3 Describe the importance of maintaining the currency of security tools 2.4 Describe the characteristics of strong passwords.

Learning outcome
The learner will: 3. Know organisational procedures for system security
Assessment criteria
The learner can: 3.1 State organisational procedures for system security 3.2 List available security tools and equipment 3.3 State organisational conventions for the construction of passwords 3.4 Describe the process for reporting any actual or attempted breaches of security.

Learning outcome
The learner will: 4. Contribute to maintaining system security
Assessment criteria
The learner can: 4.1 Correctly configure security tools to meet specified requirements 4.2 Monitor the operation of specified security tools to identify actual and attempted security breaches 4.3 Accurately record all security actions and relevant information using standard documentation 4.4 Follow organisational procedures for system security.

Unit 115 IT and Telecoms system security 1

Supporting information

Guidance

Learning Outcomes 3 and 4 of this unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC65 04
Level:	SCQF 5
Credit value:	4
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos .
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Know how to provide technical advice and guidance
Assessment criteria
The learner can: 1.1 Identify how technical advice and guidance can be used 1.2 List the types of information which can form the basis of technical advice and guidance 1.3 Identify organisational procedures which can apply to the provision of technical advice and guidance 1.4 Identify circumstances where technical advice and guidance should be provided proactively rather than reactively.

Learning outcome
<p>The learner will:</p> <p>2. Provide reactive technical advice and guidance to customers</p>
Assessment criteria
<p>The learner can:</p> <p>2.1 Identify the purposes for which technical advice and guidance is required</p> <p>2.2 Check organisational guidance to ensure that customers are entitled to receive the requested technical advice and guidance</p> <p>2.3 Communicate effectively with customers to obtain specified information</p> <p>2.4 Provide advice and guidance in line with information specified by the customer</p> <p>2.5 Communicate technical advice and guidance to customers in line with organisational procedures, confirming customer understanding of the information provided</p> <p>2.6 Follow organisational procedures for responding to customer requests including the timely escalation of those for which technical advice and guidance cannot be provided or does not resolve the request.</p>

Unit 116 Technical advice and guidance

1

Supporting information

Guidance

Learning Outcome 2 of this unit must be assessed in the workplace.
Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Unit 117

Working with IT and Telecoms hardware and equipment 1

Accreditation number:	UC68 04
Level:	SCQF 5
Credit value:	7
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Know how to work with IT and Telecoms hardware and equipment
Assessment criteria
The learner can: 1.1 State the importance of planning IT and Telecoms work activities 1.2 Identify available tools and their applicability to specific work activities 1.3 Describe organisational procedures for working with hardware and equipment and for recording information 1.4 Describe the importance of product specifications when carrying out work activities 1.5 Describe the regulatory requirements which affect planned work activities.

Learning outcome
The learner will: 2. Carry out work activities on IT and Telecoms hardware and equipment
Assessment criteria
The learner can: 2.1 Interpret given work plans to identify relevant activities, hardware and equipment 2.2 Check that any necessary work permissions have been obtained before commencing work activities 2.3 Use and handle specified tools and equipment safely and in accordance with relevant guidelines and instructions when carrying out work activities

- 2.4 Set specified configurations in line with work plans
- 2.5 Accurately record information on work activities using organisational documentation
- 2.6 Communicate progress and the outcomes of work, using organisational documentation, to specified people.
- 2.7 Follow organisational procedures and relevant legislation or regulations when carrying out work activities.

Unit 117 Working with IT and Telecoms hardware and equipment 1

Supporting information

Guidance

Outcome 2 must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Unit 204

IT and Telecom system operation 2

Accreditation number:	UC33 04
Level:	SCQF 6
Credit value:	12
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Understand the technical architecture of an IT or Telecom system
Assessment criteria
The learner can: 1.1 Describe the technical architecture of the system 1.2 Describe the main physical and logical components of the system and their contribution to overall system functionality 1.3 Describe how system components are physically and logically interconnected 1.4 Describe the external connections of the system 1.5 Describe the facilities available for controlling and monitoring the operation of the system.

Learning outcome
The learner will: 2. Understand the expected functionality and capacity of the system
Assessment criteria
The learner can: 2.1 Identify how the expected functionality and capacity of the system is specified 2.2 Interpret functionality and capacity specifications to derive qualitative and quantitative measures of system operation 2.3 Describe how control facilities can be used to optimise system performance 2.4 Describe how monitoring can be used to measure the qualitative and quantitative operation of the system 2.5 Identify any routine maintenance or replenishment required to maintain normal system operation.

Learning outcome
The learner will: 3. Operate the system
Assessment criteria
The learner can: 3.1 Use available facilities to control system operation and optimise performance 3.2 Use monitoring facilities effectively to identify actual and potential deviations from normal system operation 3.3 Check the validity of reported deviations from normal system operation 3.4 Investigate identified and reported deviations to identify required corrective actions 3.5 Ensure that system performance information is correctly recorded.

Learning outcome
The learner will: 4. Carry out system maintenance
Assessment criteria
The learner can: 4.1 Follow procedures to schedule maintenance or replenishment activities to minimise disruption to system operation 4.2 Ensure that system users are promptly informed of changes to system availability or performance during maintenance activities 4.3 Accurately keep records of maintenance and replenishment activities.

Unit 204 IT and Telecom system operation 2

Supporting information

Guidance

This unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC36 04
Level:	SCQF 6
Credit value:	12
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills
Aim:	<p>This is the ability to manage ICT systems to ensure that they deliver the required functionality and capacity. A system can be any combination of equipment, hardware and software.</p>

System management could involve changing system configuration to meet short-term fluctuations in demand (eg high numbers of calls to specific telephone numbers).

It could also involve longer-term changes such as increasing resources (eg processing or storage capacity) to meet anticipated needs and taking account of advances in technology.

Learning outcome
<p>The learner will:</p> <ol style="list-style-type: none"> 1. Understand how to manage a system
Assessment criteria
<p>The learner can:</p> <ol style="list-style-type: none"> 1.1 Explain the functionality of a specified system 1.2 Describe the components of a specified system and the asset information associated with them 1.3 Describe how system configuration and component asset information is recorded and stored 1.4 Identify system management tools and describe how they are used 1.5 Describe the importance of following product specifications and meeting customer requirements when managing systems. 1.6 Explain the importance of security when managing systems. 1.7 Describe how available options for system management affect performance and capacity.

Learning outcome
The learner will: 2. Manage a system under direction
Assessment criteria
The learner can: 2.1 Plan the implementation of system changes following organisational procedures 2.2 Implement configuration options to improve system performance and capacity 2.3 Implement changes to system configuration following organisational procedures 2.4 Confirm that changes made to system configurations are effective 2.5 Recognise and resolve or escalate any system problems arising from configuration changes 2.6 Record all relevant asset and configuration information.

Learning outcome
The learner will: 3. Understand how to minimise risks when managing a system
Assessment criteria
The learner can: 3.1 Explain how to minimise data loss and corruption when managing systems 3.2 Describe how to minimise the impact on system users when making changes to system configuration.

Unit 205 IT and Telecom system management 2

Supporting information

Guidance

This unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC41 04
Level:	SCQF 6
Credit value:	12
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos .
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Implement a software design using event driven programming
Assessment criteria
<p>The learner can:</p> <ol style="list-style-type: none"> 1.1 Identify the screen components and data and file structures required to implement a given design 1.2 Select, declare and initialise variable and data structure types and sizes to implement design requirements 1.3 Select and assign properties to screen components to implement design requirements 1.4 Select and associate events (including parameter passing) to screen components to implement design requirements 1.5 Implement event handling using control structures to meet the design algorithms 1.6 Select and declare file structures to meet design file storage requirements 1.7 Select and use standard input/output commands to implement design requirements 1.8 Make effective use of operators and predefined functions 1.9 Make effective use of an Integrated Development Environment (IDE) including code and screen templates.

Learning outcome
The learner will: 2. Refine an event driven program to improve quality
Assessment criteria
The learner can: 2.1 Use an agreed standard for naming, comments and code layout 2.2 Define user functions to replace repeating code sequences 2.3 Implement data validation for inputs 2.4 Identify and implement opportunities for error handling and reporting.

Learning outcome
The learner will: 3. Test the operation of an event driven program
Assessment criteria
The learner can: 3.1 Make effective use of the debugging facilities available in the IDE 3.2 Prepare a test strategy 3.3 Select suitable test data and determine expected test results 3.4 Record actual test results to enable comparison with expected results 3.5 Analyse actual test results against expected results to identify discrepancies 3.6 Investigate test discrepancies to identify and rectify their causes

Learning outcome
The learner will: 4. Document an event driven program
Assessment criteria
The learner can: 4.1 Create on-screen help to assist the users of a computer program 4.2 Create documentation for the support and maintenance of a computer program.

Unit 207 Event driven computer programming 2

Supporting information

Guidance

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC44 04
Level:	SCQF 6
Credit value:	12
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Implement a software design using object oriented programming
Assessment criteria
<p>The learner can:</p> <ul style="list-style-type: none"> 1.1 Identify the objects and data and file structures required to implement a given design 1.2 Select, declare and initialise variable and data structure types and sizes to implement design requirements 1.3 Define relationships between objects to implement design requirements 1.4 Implement message passing between objects to implement design requirements 1.5 Implement object behaviours using control structures to meet the design algorithms 1.6 Select and declare file structures to meet design file storage requirements 1.7 Select and use standard input/output commands to implement design requirements 1.8 Make effective use of operators and predefined functions 1.9 Make effective use of an Integrated Development Environment (IDE) including code and screen templates.

Learning outcome
The learner will: 2. Refine an object oriented program to improve quality
Assessment criteria
The learner can: 2.1 Use an agreed standard for naming, comments and code layout 2.2 Make effective use of encapsulation, polymorphism and inheritance 2.3 Implement data validation for inputs 2.4 Identify and implement opportunities for error handling and reporting.

Learning outcome
The learner will: 3. Test the operation of an object oriented driven program
Assessment criteria
The learner can: 3.1 Make effective use of the debugging facilities available in the IDE 3.2 Prepare a test strategy to an agreed format 3.3 Select suitable test data and determine expected test results 3.4 Record actual test results to enable comparison with expected results 3.5 Analyse actual test results against expected results to identify discrepancies 3.6 Investigate test discrepancies to identify and rectify their causes.

Learning outcome
The learner will: 4. Document an object oriented driven program
Assessment criteria
The learner can: 4.1 Create on-screen help to assist the users of a computer program 4.2 Create documentation for the support and maintenance of a computer program

Unit 208 Object oriented computer programming 2

Supporting information

Guidance

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC47 04
Level:	SCQF 6
Credit value:	12
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Implement a software design using procedural programming
Assessment criteria
The learner can: 1.1 Identify the program modules, data and file structures required to implement a given design 1.2 Select, declare and initialise variable and data structure types and sizes to implement design requirements 1.3 Select and implement control structures to meet the design algorithms 1.4 Select and declare file structures to meet design file storage requirements 1.5 Select and use standard input/output commands to implement design requirements 1.6 Make effective use of operators and predefined functions 1.7 Correctly use parameter passing mechanisms.

Learning outcome
The learner will: 2. Refine a procedural program to improve quality
Assessment criteria
The learner can: 2.1 Use an agreed standard for naming, comments and code layout 2.2 Define user functions to replace repeating code sequences 2.3 Implement data validation for inputs 2.4 Identify and implement opportunities for error handling and reporting.

Learning outcome
The learner will: 3. Test the operation of a procedural program
Assessment criteria
The learner can: 3.1 Make effective use of available debugging tools 3.2 Prepare a test strategy to an agreed format 3.3 Select suitable test data and determine expected test results 3.4 Record actual test results to enable comparison with expected results 3.5 Analyse actual test results against expected results to identify discrepancies 3.6 Investigate test discrepancies to identify and rectify their causes.

Learning outcome
The learner will: 4. Document a computer program
Assessment criteria
The learner can: 4.1 Create documentation to assist the users of a computer program 4.2 Create documentation for the support and maintenance of a computer program.

Unit 209 Procedural computer programming 2

Supporting information

Guidance

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Unit 210

Investigating and defining customer requirements for IT and Telecoms systems 2

Accreditation number:	UC50 04
Level:	SCQF 6
Credit value:	12
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Understand how to investigate and define system requirements
Assessment criteria
The learner can: 1.1 Describe the types of needs and constraints which need to be identified to inform the design of an IT or Telecoms system 1.2 Describe common investigative methods and state the types of information which they can be used to elicit 1.3 Describe the type of defects which can arise in information 1.4 Explain the importance of preserving the security and confidentiality of information.

Range
Needs eg: <ul style="list-style-type: none">• data to be stored and processed• functionality in terms of inputs, processes and outputs capacity including numbers of users, throughput, and data storage Investigative methods eg: <ul style="list-style-type: none">• observations• examination of existing documents, records or software• questionnaires• site surveys Defects eg inaccuracy, duplication and omission.

Learning outcome
<p>The learner will:</p> <p>2. Contribute to the investigation and definition of system requirements</p>
Assessment criteria
<p>The learner can:</p> <p>2.1 Correctly use specified investigative methods to gather information on existing systems and processes</p> <p>2.2 Accurately record gathered information using specified documentation</p> <p>2.3 Review own gathered information to identify defects and where necessary take action to remedy identified defects</p> <p>2.4 Analyse specified information to identify current and future functionality and capacity needs</p> <p>2.5 Accurately record the results of analyses using standard documentation</p> <p>2.6 Follow organisational procedures to preserve the security and confidentiality of information.</p>

Unit 210 Investigating and defining customer requirements for IT and Telecoms systems 2

Supporting information

Guidance

Learning Outcome 2 of this unit must be assessed in the workplace.
Further guidance is set out in the CBQ Assessment principles developed
by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC53 04
Level:	SCQF 6
Credit value:	9
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will:
1. Understand the role of remote support in the organisation
Assessment criteria
The learner can:
1.1 Describe the advanced features of the products or services to be supported
1.2 Describe the main benefits and uses of the products or services
1.3 Describe how the product or service can be configured to meet customer needs
1.4 Identify sources of technical or specialist information and advice on the products or services
1.5 Explain organisational requirements and procedures for remote support.

Learning outcome
The learner will:
2. Provide remote support for specified products or services
Assessment criteria
The learner can:
2.1 Promptly confirm the customer's identity
2.2 Correctly validate the request for support
2.3 Accurately identify the customer's support needs
2.4 Where the product or service is capable of meeting the customer's needs provide sufficient relevant information to enable this
2.5 Where customer needs are not met, promptly escalate the request for relevant action

- 2.6 Where the existing product or service is not intended to meet the customer's needs identify and suggest additional or alternative products or services
- 2.7 Confirm the customer's expectations of any further actions and their understanding of all information provided
- 2.8 Accurately record customer support information using given formats
- 2.9 Follow organisational procedures when providing support to customers.

Unit 211 Remote support for IT and Telecoms products or services 2

Supporting information

Guidance

This unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Unit 212

IT and Telecoms fault diagnosis 2

Accreditation number:	UC56 04
Level:	SCQF 7
Credit value:	8
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Understand the technical fault diagnosis process
Assessment criteria
The learner can: 1.1 Describe the role of fault validation, information gathering, information analysis and solution identification in the fault diagnosis process 1.2 Describe the types of information that are commonly needed to support the fault diagnosis process 1.3 Explain common diagnostic methods and give examples of their appropriate use 1.4 Explain the importance of minimising disruption to service during diagnostics.

Learning outcome
The learner will: 2. Understand the organisational fault diagnosis environment
Assessment criteria
The learner can: 2.1 Describe organisational tools and procedures for fault diagnosis 2.2 Identify sources of relevant specialist technical information and advice.

Learning outcome
The learner will: 3. Diagnose faults in a range of IT or Telecoms equipment
Assessment criteria
The learner can: 3.1 Interpret existing diagnostic information to identify fault indications and possible causes 3.2 Select and correctly use appropriate diagnostic tools to generate additional diagnostic information 3.3 Analyse all available diagnostic and technical information to identify the probable cause of faults 3.4 Accurately record fault diagnosis activities using standard documentation 3.5 Follow organisational procedures for fault diagnosis.

Learning outcome
The learner will: 4. Select remedies for faults in a range of IT or Telecoms equipment
Assessment criteria
The learner can: 4.1 Describe the factors which need to be taken into account when selecting remedies for faults 4.2 Evaluate potential remedies to identify the most effective one.

Unit 212 IT and Telecoms fault diagnosis 2

Supporting information

Guidance

This unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Unit 213

Testing IT and Telecoms systems 2

Accreditation number:	UC59 04
Level:	SCQF 6
Credit value:	12
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Understand the principles of IT and Telecoms testing
Assessment criteria
The learner can: 1.1 Describe the purposes of testing and the applicability of common classes of test 1.2 Identify preparation and conclusion activities associated with testing and the circumstances in which they may be required 1.3 Describe organisational requirements and procedures for testing and available test equipment and software.

Learning outcome
The learner will: 2. Plan for the testing of system components
Assessment criteria
The learner can: 2.1 Correctly identify the components to be tested and the purpose of the test 2.2 Select the types and sequences of test required to thoroughly test the components 2.3 Select any test equipment or software to be used 2.4 Define sufficient relevant inputs and expected outputs for the planned tests 2.5 Document required test preparation and conclusion activities.

Learning outcome
The learner will: 3. Carry out the testing of system components
Assessment criteria
The learner can: 3.1 Implement all required preparations prior to carrying out tests 3.2 Correctly apply planned inputs making effective use of any test equipment or software 3.3 Accurately record system and test equipment or software outputs 3.4 Accurately record, and where necessary promptly respond to, any errors arising during the test 3.5 Implement all required activities following the completion of testing.

Learning outcome
The learner will: 4. Interpret test results
Assessment criteria
The learner can: 4.1 Analyse test records to identify any discrepancies between actual and expected outputs and the source of any recorded errors 4.2 Investigate and document the possible causes of identified discrepancies and errors.

Unit 213 Testing IT and Telecoms systems 2

Supporting information

Guidance

Outcomes 2, 3 and 4 must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC61 04
Level:	SCQF 6
Credit value:	3
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills
Aim:	This unit will give the learner an understanding of how to design, create and administer user profiles in an IT or Telecoms system.

Learning outcome
The learner will: 1. Understand the role of user and group profiles in IT and Telecoms systems
Assessment criteria
The learner can: 1.1 Explain the importance and purpose of user and group profiles 1.2 Describe the type and function of information held in typical user and group profiles 1.3 Describe the factors that need to be considered in the design of a user or group profile.

Learning outcome
The learner will: 2. Understand organisational procedures for profile administration
Assessment criteria
The learner can: 2.1 Describe the hierarchy of profiles that reflect organisational structure and system user requirements 2.2 Describe organisational procedures for the administration and security of profiles.

Learning outcome
<p>The learner will:</p> <p>3. Administer user and group profiles</p>
Assessment criteria
<p>The learner can:</p> <p>3.1 Design and implement profiles which accurately meet given requirements for system and resource access</p> <p>3.2 Correctly update profiles to reflect changes in requirements</p> <p>3.3 Provide guidance on the administration and security of profiles to others.</p>

Unit 214 User profile administration

Supporting information

Guidance

Learning Outcomes 2 and 3 of this unit must be assessed in the workplace. Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Unit 217

Working with IT and Telecoms hardware and equipment 2

Accreditation number:	UC69 04
Level:	SCQF 6
Credit value:	10
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Understand how to work with IT and Telecoms hardware and equipment
Assessment criteria
The learner can: 1.1 Describe the importance of planning IT and Telecoms work activities 1.2 Describe available tools and techniques and their applicability to specific work activities 1.3 Describe organisational procedures for working with hardware and equipment and for recording information 1.4 Explain the importance of product specifications and customer requirements when carrying out work activities 1.5 Explain how regulatory requirements affect planned work activities 1.6 Explain the importance of security when working on IT and Telecoms systems 1.7 Explain the importance of registering new hardware products.

Learning outcome
The learner will: 2. Plan work activities on IT and Telecoms hardware and equipment
Assessment criteria
The learner can: 2.1 Plan activities for working with hardware and equipment to meet given requirements 2.2 Explain how to ensure that planned work activities cause minimum disruption to users of the system 2.3 Explain how to design work plans to ensure the integrity and security of any stored data

- 2.4 Ensure that any necessary work permissions have been obtained before commencing work activities
- 2.5 Allocate the resources and materials required to carry out planned work activities in accordance with work plans
- 2.6 Identify tools, hardware, equipment and methods for use in the planned work activities.

Learning outcome

The learner will:

- 3. Carry out work activities on IT and Telecoms hardware and equipment

Assessment criteria

The learner can:

- 3.1 Use and handle tools and materials safely and in accordance with relevant guidelines and instructions when carrying out work activities
- 3.2 Provide technical advice to support the work activities of immediate colleagues
- 3.3 Set configuration options in line with work plans
- 3.4 Operate tools, hardware and equipment in line with methods identified in planned work activities
- 3.5 Record information on work activities in line with organisational requirements
- 3.6 Check that all hardware has been registered in line with organisational procedures
- 3.7 Communicate progress and the outcomes of work in line with organisational requirements
- 3.8 Follow organisational procedures and relevant legislation or regulations when carrying out work activities.

Unit 217 Working with IT and Telecoms hardware and equipment 2

Supporting information

Guidance

Outcomes 2 and 3 must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Unit 306

Managing software development 1

Accreditation number:	UC38 04
Level:	SCQF 7
Credit value:	15
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Understand the software development process
Assessment criteria
The learner can: 1.1 Describe common programming paradigms and their applicability 1.2 Describe the stages of the traditional software development life cycle model 1.3 Identify the key features of alternative approaches to software development 1.4 Identify the common types of procedures and conventions associated with software development.

Learning outcome
The learner will: 2. Understand the organisational software development environment
Assessment criteria
The learner can: 2.1 Describe organisational tools and procedures for software development projects 2.2 Explain organisational conventions for the form, content and structure of software designs 2.3 Explain organisational conventions for the naming and internal documentation of software components 2.4 Describe organisational requirements for the form and content of software maintenance documentation.

Learning outcome
<p>The learner will:</p> <p>3. Contribute to the management of the technical aspects of software development projects</p>
Assessment criteria
<p>The learner can:</p> <p>3.1 Provide guidance to others on organisational tools, procedures and conventions for software development</p> <p>3.2 Review the software development work of others for compliance with organisational procedures</p> <p>3.3 Review specified outputs of software development projects for compliance with organisational conventions</p> <p>3.4 Provide feedback to others, where necessary, to improve compliance with organisational procedures and conventions for software development</p> <p>3.5 Accurately document the results of reviews to contribute to the overall improvement of compliance with organisational procedures and conventions for software development.</p>

Unit 306 Managing software development 1

Supporting information

Guidance

Learning Outcomes 2 and 3 of this unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Unit 312

IT and Telecoms fault diagnosis 3

Accreditation number:	UC57 04
Level:	SCQF 8
Credit value:	12
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Understand the technical fault diagnosis process
Assessment criteria
The learner can: 1.1 Explain the role of fault validation, information gathering, information analysis and solution identification in the fault diagnosis process 1.2 Explain how information is used to support the fault diagnosis process 1.3 Evaluate a range of diagnostic methods 1.4 Explain the importance of minimising disruption to service while diagnosing and remedying faults.

Learning outcome
The learner will: 2. Maintain and develop the organisational fault diagnosis environment
Assessment criteria
The learner can: 2.1 Evaluate current organisational tools and procedures for fault diagnosis and remedy to identify possible improvements 2.2 Ensure that agreed identified improvements to organisational tools and procedures for fault diagnosis and remedy are implemented promptly and disseminated to all relevant persons 2.3 Review and update sources of relevant specialist technical information and advice 2.4 Contribute to the development of organisational strategy for fault diagnosis and remedy.

Learning outcome
<p>The learner will:</p> <p>3. Manage the technical aspects of fault diagnosis and remedy</p>
Assessment criteria
<p>The learner can:</p> <p>3.1 Ensure that training and guidance on organisational tools and procedures for fault diagnosis and remedy are available to all relevant persons</p> <p>3.2 Ensure that individuals' fault diagnosis and remedy activities are reviewed for compliance with organisational procedures</p> <p>3.3 Ensure that all necessary feedback is provided to individuals to improve compliance with organisational procedures</p> <p>3.4 Analyse the records of fault diagnosis and remedy over time to identify trends and recurring faults</p> <p>3.5 Implement an action plan to respond to trends and recurring faults.</p>

Unit 312 IT and Telecoms fault diagnosis 3

Supporting information

Guidance

This unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Unit 313

Testing IT and Telecoms systems 3

Accreditation number:	UC60 04
Level:	SCQF 8
Credit value:	15
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Understand the principles of IT and Telecoms testing
Assessment criteria
The learner can: 1.1 Explain the purposes of testing 1.2 Explain the factors which determine the applicability of different classes of test 1.3 Explain the importance of preparation and conclusion activities associated with testing and the circumstances in which they may be required 1.4 Explain organisational requirements and procedures for testing 1.5 Describe the capabilities of available test equipment and software.

Learning outcome
The learner will: 2. Plan for the testing of an IT or Telecoms system
Assessment criteria
The learner can: 2.1 Analyse available information to accurately define the functionality to be tested and the purpose of the test 2.2 Select and document the types, sequences and number of tests required to thoroughly test the defined functionality 2.3 Select, and where necessary adapt, test equipment or software to be used 2.4 Accurately determine the types and amounts of inputs and expected outputs for the planned tests 2.5 Define all required test preparation and conclusion activities.

Learning outcome
The learner will: 3. Control the testing of system components
Assessment criteria
The learner can: 3.1 Ensure that all required preparations are correctly implemented prior to carrying out tests 3.2 Instruct others in the effective use of test equipment or software 3.3 Ensure that all required activities have been correctly implemented following the completion of testing 3.4 Develop documentation for recording test results 3.5 Contribute to the development of organisational test strategy.

Learning outcome
The learner will: 4. Evaluate test results
Assessment criteria
The learner can: 4.1 Ensure that individual tests are correctly recorded and indicate source of any errors 4.2 Ensure that test records are analysed to identify discrepancies between actual and expected outputs 4.3 Investigate and document the probable causes of identified discrepancies and errors 4.4 Examine multiple test records to identify trends or recurring discrepancies and errors 4.5 Implement an action plan to respond to discrepancies and errors.

Unit 313 Testing IT and Telecoms systems 3

Supporting information

Guidance

Outcomes 2, 3 and 4 must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC63 04
Level:	SCQF 7
Credit value:	8
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Understand threats to IT and Telecoms systems
Assessment criteria
The learner can: 1.1 Describe common types of physical threat to systems and data 1.2 Describe common types of electronic threats to systems and data 1.3 Describe the operation of common types of malicious code 1.4 Explain the security vulnerabilities associated with remote access technologies including wireless.

Learning outcome
The learner will: 2. Understand how to protect IT and Telecoms systems
Assessment criteria
The learner can: 2.1 Describe methods of providing physical access control and security 2.2 Describe methods of providing electronic access control and security 2.3 Explain the importance of maintaining the currency of security tools 2.4 Explain how encryption can contribute to data security 2.5 Explain how keys and certificates can be used to provide data security.

Learning outcome
The learner will: 3. Understand organisational procedures for system security
Assessment criteria
The learner can: 3.1 Describe organisational procedures for system security and passwords 3.2 Describe the operation and application of available security tools and equipment 3.3 Describe the features of the organisational procedures for disaster recovery 3.4 Explain the potential operational impact of security breaches.

Learning outcome
The learner will: 4. Contribute to maintaining system security
Assessment criteria
The learner can: 4.1 Correctly identify the security requirements of specified system assets and resources 4.2 Implement, configure and maintain security tools to meet identified requirements 4.3 Monitor the operation of security tools to identify actual and attempted security breaches 4.4 Provide guidance on security, the use of security tools and the construction of passwords to others 4.5 Contribute to reviews of system security 4.6 Accurately record all security actions and relevant information using standard documentation 4.7 Contribute to the development of organisational procedures for system security.

Unit 315 IT and Telecoms system security 2

Supporting information

Guidance

Learning Outcomes 3 and 4 of this unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC66 04
Level:	SCQF 7
Credit value:	7
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Know the context for providing technical advice and guidance
Assessment criteria
The learner can: 1.1 Describe how technical advice and guidance can be used to resolve problems and improve performance 1.2 Describe the available types, sources and applicability of information which can form the basis of technical advice and guidance 1.3 Describe the commercial, regulatory and security factors which can apply to the provision of technical advice and guidance 1.4 Differentiate between proactive and reactive technical advice and guidance 1.5 Describe organisational procedures for providing technical advice and guidance.

Learning outcome
The learner will: 2. Provide reactive technical advice and guidance to customers
Assessment criteria
The learner can: 2.1 Determine the purposes for which technical advice and guidance is required 2.2 Use organisational guidance to verify that customers are entitled to receive the requested technical advice and guidance 2.3 Communicate effectively with customers to elicit sufficient information to enable correct technical advice and guidance to be provided

- 2.4 Provide advice and guidance in line with information specified by the customer
- 2.5 Communicate technical advice and guidance to customers in line with organisational procedures confirming customer understanding of the information provided
- 2.6 Follow organisational procedures for responding to customer requests including the timely escalation of those for which technical advice and guidance cannot be provided or does not resolve the request.

Learning outcome

The learner will:

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|---|
| 3. Provide proactive technical advice and guidance to customers |
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Assessment criteria

The learner can:

- | |
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| <ul style="list-style-type: none"> 3.1 Identify the purposes for which the technical advice and guidance is required 3.2 Identify the customers level of technical knowledge, following organisational guidelines 3.3 Develop technical advice and guidance in a format and style which takes into account the customers' level of technical knowledge 3.4 Use appropriate media to disseminate technical advice and guidance to identified customers 3.5 Follow organisational procedures for providing proactive technical advice and guidance. |
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Unit 316 Technical advice and guidance

2

Supporting information

Guidance

Learning outcomes 2 and 3 of this unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC34 04
Level:	SCQF 8
Credit value:	14
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos .
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Understand the technical architecture of IT or Telecom systems
Assessment criteria
The learner can: 1.1 Explain the technical architecture of a system and describe alternative approaches 1.2 Explain the contribution to overall system functionality of the main physical and logical components of the system 1.3 Explain how system components can be physically and logically interconnected 1.4 Describe the external connections of the system and how they are used 1.5 Explain the facilities available for controlling and monitoring the operation of the system.

Learning outcome
The learner will: 2. Understand how to specify system operation parameters
Assessment criteria
The learner can: 2.1 Explain how the expected functionality and capacity of the system has been specified 2.2 Explain how qualitative and quantitative measures of system operation have been derived from functionality and capacity specifications 2.3 Explain how the system can be controlled to optimise performance 2.4 Explain how monitoring can be used to measure the qualitative and quantitative operation of the system 2.5 Describe the routine maintenance or replenishment required to maintain normal system operation.

Learning outcome
The learner will: 3. Control the operation of the system
Assessment criteria
The learner can: 3.1 Select the control facilities to be used and document how they are to be used to optimise system operation 3.2 Select the monitoring facilities to be used and document how they are to be used to identify actual and potential deviations from normal system operation 3.3 Define and implement procedures to check the validity of reported deviations from normal system operation 3.4 Define and implement procedures to investigate identified and reported deviations to identify required corrective actions 3.5 Define the system performance information to be recorded.

Learning outcome
The learner will: 4. Control system maintenance
Assessment criteria
The learner can: 4.1 Define and implement procedures to schedule maintenance and replenishment activities to minimise disruption to system operation 4.2 Define and implement procedures to ensure that maintenance activities are carried out safely and in accordance with relevant regulations 4.3 Define and implement procedures to ensure that system users are promptly informed of changes to system availability or performance during maintenance activities 4.4 Define the maintenance and replenishment information to be recorded.

Unit 404 IT and Telecom System Operation 3

Supporting information

Guidance

This unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC39 04
Level:	SCQF 8
Credit value:	20
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will:
1. Understand the software development process
Assessment criteria
The learner can:
1.1 Compare and contrast common programming paradigms and their applicability
1.2 Explain the stages of the traditional software development lifecycle model
1.3 Explain the advantages and disadvantages of alternative approaches to software development
1.4 Describe the purposes of procedures and conventions associated with software development.

Learning outcome
The learner will:
2. Maintain and develop the organisation's software development environment
Assessment criteria
The learner can:
2.1 Evaluate current organisational tools and procedures for software development to identify possible improvements
2.2 Review organisational conventions for the outputs of software development projects against best practice and external standards
2.3 Ensure that agreed identified improvements to organisational tools, procedures and conventions for software development are implemented promptly and disseminated to all relevant persons
2.4 Contribute to the development of organisational strategy for software development.

Learning outcome
<p>The learner will:</p> <p>3. Manage the technical aspects of software development projects</p>
Assessment criteria
<p>The learner can:</p> <p>3.1 Ensure that training and guidance on organisational tools, procedures and conventions for software development are available to all relevant persons</p> <p>3.2 Ensure that all software development projects are reviewed for compliance with organisational conventions</p> <p>3.3 Ensure that all necessary feedback is provided to improve compliance with organisational procedures and conventions for software development</p> <p>3.4 Evaluate the results of reviews of software development projects to identify improvements to the overall compliance with organisational procedures and conventions.</p>

Unit 406 Managing software development 2

Supporting information

Guidance

Learning Outcomes 2 and 3 of this unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC42 04
Level:	SCQF 8
Credit value:	20
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will:
1. Design event driven programs to address loosely defined problems
Assessment criteria
The learner can:
1.1 Identify and structure the components and data required to address problems
1.2 Select and use pre-defined components, specialising as required
1.3 Identify the set of events that invoke the behaviour of components and other programme elements
1.4 Specify the behaviour of components and other program elements to allow efficient implementation, selecting appropriate data types, data and file structures and algorithms
1.5 Record the design in an agreed format.

Learning outcome
The learner will:
2. Implement a software design using event driven programming
Assessment criteria
The learner can:
2.1 Use an agreed standard for naming, comments and code layout
2.2 Define the screen components required to implement the design by assigning properties and event association (including parameter passing)
2.3 Select, declare and initialise variable and data structure types and sizes to meet design requirements
2.4 Adapt control structures to implement event (including error) handling to meet the design algorithms

- 2.5 Develop file structures to meet design file storage requirements
- 2.6 Develop input/output routines to implement design requirements
- 2.7 Make effective use of operators and predefined functions
- 2.8 Make effective use of an Integrated Development Environment (IDE) including code and screen templates.

Learning outcome

The learner will:

- 3. Develop event driven programs to improve usability

Assessment criteria

The learner can:

- 3.1 Seek feedback on the usability of the program
- 3.2 Analyse feedback to identify improvements in usability
- 3.3 Design and implement data validation and error handling techniques which improve the usability of the program
- 3.4 Create on-screen help to assist program user.

Learning outcome

The learner will:

- 4. Develop test strategies and apply these to event driven programs

Assessment criteria

The learner can:

- 4.1 Develop and apply a test strategy consistent with the design identifying appropriate test data
- 4.2 Apply regression testing consistent with the test strategy
- 4.3 Analyse actual test results to identify discrepancies
- 4.4 Use appropriate tools to estimate the performance of the program
- 4.5 Critically review the program functionality and usability against design requirements.

Learning outcome

The learner will:

- 5. Document an event driven computer program

Assessment criteria

The learner can:

- 5.1 Create documentation to assist the users of a computer program
- 5.2 Create documentation for the support and maintenance of a computer program
- 5.3 Review program documentation against user and support needs.

Unit 407 Event driven computer programming 3

Supporting information

Guidance

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC45 04
Level:	SCQF 8
Credit value:	20
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Design object oriented programs to address loosely-defined problems
Assessment criteria
The learner can: 1.1 Identify a set of classes and their interrelationships to address the problem 1.2 Make effective use of encapsulation, inheritance and polymorphism 1.3 Select and reuse pre-existing objects and templates specialising as required 1.4 Structure the design so that objects communicate efficiently 1.5 Specify the properties and behaviour of classes to allow efficient implementation, selecting appropriate data types, data and file structures and algorithms 1.6 Record the design in an agreed format.

Learning outcome
The learner will: 2. Implement a software design using object oriented programming
Assessment criteria
The learner can: 2.1 Use an agreed standard for naming, comments and code layout 2.2 Define the objects and file structures required to implement the design 2.3 Select, declare and initialise variable and data structure types and sizes to implement the design 2.4 Implement message passing between objects to meet the design 2.5 Implement object behaviours using control structures to meet the design algorithms 2.6 Develop input/output routines to implement design requirements

- 2.7 Make effective use of operators and predefined functions
- 2.8 Make effective use of encapsulation, polymorphism and inheritance
- 2.9 Make effective use of an Integrated Development Environment (IDE) including use and development of code and screen templates.

Learning outcome

The learner will:

- 3. Develop object oriented programs to improve usability

Assessment criteria

The learner can:

- 3.1 Seek feedback on the usability of the program
- 3.2 Analyse feedback to identify improvements in usability
- 3.3 Design and implement data validation and error handling techniques which improve the usability of the program
- 3.4 Create on-screen help to assist program users.

Learning outcome

The learner will:

- 4. Develop test strategies and apply these to object oriented programs

Assessment criteria

The learner can:

- 4.1 Develop and apply a test strategy consistent with the design identifying appropriate test data
- 4.2 Apply regression testing consistent with the test strategy
- 4.3 Analyse actual test results to identify discrepancies
- 4.4 Use appropriate tools to estimate the performance of the program
- 4.5 Critically review the program functionality and usability against design requirements.

Learning outcome

The learner will:

- 5. Document an object oriented computer program

Assessment criteria

The learner can:

- 5.1 Create documentation to assist the users of a computer program
- 5.2 Create documentation for the support and maintenance of a computer program
- 5.3 Review program documentation against user and support needs.

Unit 408 Object oriented computer programming 3

Supporting information

Guidance

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC48 04
Level:	SCQF 8
Credit value:	20
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will:
1. Design procedural programs to address loosely-defined problems
Assessment criteria
The learner can:
1.1 Identify and structure procedures and functions to address problems
1.2 Select and use library functions and procedures
1.3 Structure the design with regard to coupling and cohesion
1.4 Specify the behaviour of functions and procedures to allow efficient implementation, selecting appropriate data types, data and file structures and algorithms
1.5 Record the design in an agreed format.

Learning outcome
The learner will:
2. Implement a software design using procedural programming
Assessment criteria
The learner can:
2.1 Use an agreed standard for naming, comments and code layout
2.2 Define the program modules, data and file structures required to implement the design
2.3 Select, declare and initialise variable and data structure types and sizes to meet design requirements
2.4 Adapt control structures to meet the design algorithms
2.5 Develop file structures to meet design file storage requirements
2.6 Develop input/output routines to implement design requirements
2.7 Develop functions to replace repeating code sequences.

Learning outcome
The learner will: 3. Develop procedural programs to improve usability
Assessment criteria
The learner can: 3.1 Seek feedback on the usability of the program 3.2 Analyse feedback to identify improvements in usability 3.3 Design and implement data validation and error handling techniques which improve the usability of the program 3.4 Create on-screen help to assist program users.

Learning outcome
The learner will: 4. Develop test strategies and apply these to procedural programs
Assessment criteria
The learner can: 4.1 Develop and apply a test strategy consistent with the design identifying appropriate test data 4.2 Apply regression testing consistent with the test strategy 4.3 Analyse actual test results to identify discrepancies 4.4 Use appropriate tools to estimate the performance of the program 4.5 Critically review the program functionality and usability against design requirements.

Learning outcome
The learner will: 5. Document a procedural computer program
Assessment criteria
The learner can: 5.1 Create documentation to assist the users of a computer program 5.2 Create documentation for the support and maintenance of a computer program 5.3 Review program documentation against user and support needs.

Unit 409 Procedural computer programming 3

Supporting information

Guidance

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Unit 410

Investigating and defining customer requirements for IT and Telecoms systems 3

Accreditation number:	UC51 04
Level:	SCQF 8
Credit value:	15
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos .
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills
Aim:	<p>Investigative methods eg:</p> <ul style="list-style-type: none">• observations• examination of existing documents, records or software• questionnaires• site surveys <p>Defects eg inaccuracy, duplication and omission.</p> <p>Needs eg:</p> <ul style="list-style-type: none">• data to be stored and processed• functionality in terms of inputs, processes and outputs• capacity including numbers of users, throughput, and data storage.

Learning outcome
The learner will: 1. Understand how to investigate and define system requirements
Assessment criteria
The learner can: 1.1 Explain how needs and constraints are used to inform the design of an IT or Telecoms system 1.2 Evaluate the effectiveness of common investigative methods in eliciting different types of information 1.3 Explain how defects can arise in information and how they can be eliminated 1.4 Evaluate the impact of failures to preserve the security and confidentiality of information.

Learning outcome
The learner will: 2. Control the investigation and definition of system requirements
Assessment criteria
The learner can: 2.1 Select investigative methods, for use by self and others, which will effectively elicit all relevant information on existing systems and processes 2.2 Ensure that all gathered information is accurately recorded using specified documentation 2.3 Ensure that all gathered information is reviewed to identify defects and all necessary actions have been taken to remedy identified defects 2.4 Ensure that all records of the results of analyses are recorded using standard documentation 2.5 Synthesise analysis results to define overall system requirements in an agreed format.

Learning outcome
The learner will: 3. Investigate customer requirements
Assessment criteria
The learner can: 3.1 Correctly use a range of investigative methods to gather information on existing systems and processes 3.2 Analyse information to identify constraints and current and future functionality and capacity needs.

Unit 410 Investigating and defining customer requirements for IT and Telecoms systems 3

Supporting information

Guidance

Learning Outcome 2 of this unit must be assessed in the workplace.
Further guidance is set out in the CBQ Assessment principles developed
by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC54 04
Level:	SCQF 8
Credit value:	12
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos .
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will:
1. Understand the role of remote support in the organisation
Assessment criteria
The learner can:
1.1 Explain the types of products and services to be supported
1.2 Evaluate the service level requirements of the agreements under which support is provided
1.3 Evaluate the effectiveness of different methods and media for providing remote support.

Learning outcome
The learner will:
2. Maintain and develop the organisation's remote support provision
Assessment criteria
The learner can:
2.1 Evaluate current organisational tools and procedures for remote support to identify possible improvements
2.2 Review organisational provision of remote support against best practice and external standards
2.3 Ensure that agreed identified improvements to organisational tools and procedures for providing remote support are implemented promptly and disseminated to all relevant persons
2.4 Contribute to the development of organisational strategy for providing remote support.

Learning outcome
<p>The learner will:</p> <p>3. Manage the provision of remote support</p>
Assessment criteria
<p>The learner can:</p> <p>3.1 Ensure that training and guidance on organisational tools and procedures for providing remote support are available to all relevant persons</p> <p>3.2 Ensure that individuals' provision of remote support is reviewed for compliance with organisational procedures</p> <p>3.3 Ensure that all necessary feedback is provided to individuals to improve compliance with organisational procedures</p> <p>3.4 Analyse the records of support provision over time to identify trends and recurring requests</p> <p>3.5 Implement an action plan to respond to trends and recurring requests.</p>

Unit 411 Remote Support for IT and Telecoms products or services 3

Supporting information

Guidance

This unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC64 04
Level:	SCQF 8
Credit value:	12
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Understand threats to IT and Telecoms systems
Assessment criteria
The learner can: 1.1 Evaluate physical threats to systems and data 1.2 Evaluate electronic threats to systems and data 1.3 Explain the operation of common types of malicious code 1.4 Evaluate the security vulnerabilities associated with remote access technologies including wireless.

Learning outcome
The learner will: 2. Understand how to protect IT and Telecoms systems
Assessment criteria
The learner can: 2.1 Evaluate methods of providing physical access control and security 2.2 Evaluate methods of providing electronic access control and security 2.3 Discuss the importance of maintaining the currency of security tools 2.4 Critically compare three Access Control Methods in common use 2.5 Explain cryptographic algorithms and their application to system security 2.6 Explain how keys and certificates can be used to provide data security.

Learning outcome
The learner will: 3. Maintain and develop organisational system security
Assessment criteria
The learner can: 3.1 Evaluate current organisational tools and procedures for system security to identify possible improvements 3.2 Review organisational system security against best practice and external standards 3.3 Implement agreed improvements to organisational tools, procedures and conventions for systems security 3.4 Contribute to the development of organisational strategy for system security and disaster recovery 3.5 Develop training and guidance materials on organisational tools, procedures and conventions for system security.

Learning outcome
The learner will: 4. Manage system security
Assessment criteria
The learner can: 4.1 Critically review system security for currency, completeness and compliance with organisational procedures 4.2 Implement, configure and maintain security tools 4.3 Analyse and interpret the results of security testing and monitoring activities 4.4 Take action to mitigate perceived security risks or vulnerabilities 4.5 Report on the consequences of any actual or attempted security breaches.

Unit 415 IT and Telecoms system security 3

Supporting information

Guidance

Learning Outcomes 3 and 4 of this unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Accreditation number:	UC67 04
Level:	SCQF 8
Credit value:	12
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Understand the context for providing technical advice and guidance
Assessment criteria
The learner can: 1.1 Explain how technical advice and guidance can be used to resolve problems and improve performance 1.2 Evaluate available types, sources and applicability of information as a basis for technical advice and guidance 1.3 Explain the commercial, regulatory and security factors which can apply to the provision of technical advice and guidance. 1.4 Compare and contrast proactive and reactive technical advice and guidance 1.5 Explain organisational procedures for providing technical advice and guidance.

Learning outcome
The learner will: 2. Provide reactive technical advice and guidance to customers
Assessment criteria
The learner can: 2.1 Evaluate the purposes for which technical advice and guidance is required 2.2 Verify that customers are entitled to receive the requested technical advice and guidance 2.3 Obtain sufficient information to enable correct technical advice and guidance to be provided 2.4 Provide relevant advice and guidance to customers based on all available information

2.5 Communicate technical advice and guidance to customers in line with organisational procedures confirming customer understanding of the information provided.

Learning outcome

The learner will:

3. Provide proactive technical advice and guidance to customers

Assessment criteria

The learner can:

3.1 Evaluate the purposes for which the technical advice and guidance is required

3.2 Assess the range of levels of technical knowledge of relevant customer groups

3.3 Develop technical advice and guidance in formats which take into account the customers' levels of technical knowledge

3.4 Select and use appropriate media to disseminate technical advice and guidance to identified customers

3.5 Follow organisational procedures for providing proactive technical advice and guidance.

Learning outcome

The learner will:

4. Control the provision of technical advice and guidance

Assessment criteria

The learner can:

4.1 Ensure that relevant information on the provision of technical advice and guidance is accurately recorded

4.2 Analyse records to identify trends and recurring requests

4.3 Implement an action plan to respond to trends and recurring requests

4.4 Develop training materials on the provision of technical advice and guidance

4.5 Contribute to the development of organisational strategy for providing technical advice and guidance.

Unit 416 Technical advice and guidance

3

Supporting information

Guidance

Learning Outcomes 2, 3 and 4 of this unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

Unit 417

Working with IT and Telecoms hardware and equipment 3

Accreditation number:	UC70 04
Level:	SCQF 8
Credit value:	14
Relationship to NOS:	This unit is based on the e-skills UK NOS for IT professionals (PROCOM) available from www.e-skills.com/nos .
Endorsement by a sector or regulatory body:	This unit is endorsed by e-skills

Learning outcome
The learner will: 1. Understand how to work with IT and Telecoms hardware and equipment
Assessment criteria
The learner can: 1.1 Explain the importance of planning IT and Telecoms work activities 1.2 Explain the factors which determine the applicability of tools and techniques to specific work activities 1.3 Explain organisational requirements and procedures for working with hardware and equipment 1.4 Discuss the importance of product specifications and customer requirements when planning work activities 1.5 Evaluate how regulatory requirements will affect planned work activities 1.6 Assess the security implications of planned work activities 1.7 Explain the importance of registering new hardware products.

Learning outcome
The learner will: 2. Plan work on IT and Telecoms hardware and equipment
Assessment criteria
The learner can: 2.1 Create work plans to meet requirements 2.2 Ensure that work plans cause minimum disruption to users of the system 2.3 Ensure that work plans maintain the integrity and security of any stored data

- 2.4 Obtain any necessary work permissions before commencing work activities
- 2.5 Ensure that the resources and materials required by work plans are available
- 2.6 Specify, and where necessary adapt, the tools hardware, equipment and methods to be used.

Learning outcome

The learner will:

- 3. Control work activities on IT and Telecoms hardware and equipment

Assessment criteria

The learner can:

- 3.1 Develop procedures for the safe use of tools and materials in accordance with relevant guidelines and instructions
- 3.2 Provide technical advice to support the work activities of others
- 3.3 Ensure that configuration options have been set in line with work plans
- 3.4 Ensure that tools, hardware and equipment are operated in line with methods identified in work plans
- 3.5 Develop documentation for recording information on work activities
- 3.6 Ensure that all hardware has been registered in line with organisational procedures
- 3.7 Communicate progress and the outcomes of work in line with organisational requirements
- 3.8 Contribute to the development of organisational strategy for work activities.

Unit 417 Working with IT and Telecoms hardware and equipment 3

Supporting information

Guidance

This unit must be assessed in the workplace.

Further guidance is set out in the CBQ Assessment principles developed by e-skills UK and agreed by the Joint Awarding Body Forum.

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