

# Pearson BTEC Level 3 Diploma in Professional Competence for IT and Telecoms Professionals (Northern Ireland)

#### Specification

Competence-based qualifications First registration February 2024 Pre-Publication

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# Introducing the qualifications

#### What are Pearson competence-based qualifications?

Pearson competence-based qualifications are work-based qualifications that give learners the opportunity to develop and demonstrate their competence in the area of work or job role to which the qualification relates.

Learners will develop the knowledge, skills and behaviours to become competent in the area of work or job role. The requirements to be competent are set by occupational standards for the appropriate sector. Pearson has worked closely with the appropriate Sector Skills Council in the development of this qualification. The qualifications are written in broad terms to enable employers and providers to apply them to a wide range of related occupational areas.

#### **Qualifications** purpose

The Pearson Level 3 Diploma in Professional Competence for IT and Telecoms Professionals (Northern Ireland) is designed to prepare learners for employment in the IT and Telecoms sector and are suitable for those who have decided that they wish to enter a specific area of work within the IT and Telecoms industry.

The Pearson BTEC Level 3 Diploma in Professional Competence for IT and Telecoms Professionals (Northern Ireland) is suitable for learners to:

- develop the fundamental technical skills and underpinning knowledge and understanding required to become competent in a range of job roles, including the following:
- o Computer Hardware Engineer
- o Computer Service Technician
- o internet/Web Professional
- IT Technical Sales Specialist
- Telecommunications Technician

For details of the units included in this qualification, please see Section 3 Qualification structure

- gain recognition for existing skills and knowledge
- achieve a nationally-recognised Level 3 qualification.

#### Industry support and recognition

The Pearson BTEC Level 3 Diploma in Professional Competence for IT and Telecoms Professionals (Northern Ireland) was developed through close collaboration with the appropriate Sector Skills Council, which supported the qualifications.

#### **Funding**

Qualifications eligible and funded for post-16-year-olds can be found on the funding Hub. The apprenticeship funding rules can be found at <a href="https://www.gov.uk">www.gov.uk</a>.

# Qualification summary and key information

Qualification title	Pearson BTEC Level 3 Diploma in Professional Competence for IT and Telecoms Professionals (Northern Ireland)
Qualification Number (QN)	×××
Regulation start date	??/??/2024
Operational start date	01/04/2024
Approved age ranges	16–18
	19+
Total Qualification	Digital Telecoms pathway: 696 hours.
Time (TQT)	Cybersecurity pathway: 705 hours.
Guided Learning	Digital Telecoms pathway: 326.
Hours (GLH)	Cybersecurity pathway: 366.
Credit value	72
Assessment	Internal assessment (portfolio of evidence).
Grading information	The qualification and units are graded Pass/Fail.
Entry requirements	No prior knowledge, understanding, skills or qualifications are required before learners register for this qualification.
	Centres must follow the information in our document, A guide to recruiting learners onto Pearson qualifications and Section 6 Access to qualifications.
Progression	Learners who achieve the Pearson BTEC Level 3 Diploma in Professional Competence for IT and Telecoms Professionals (Northern Ireland) could progress to employment in the IT and Telecoms sector or to higher education vocational qualifications such as the Pearson BTEC Level 4 Higher National in Cloud Computing, Computing or Digital Technologies.

# 3 Qualification structures

#### Understanding the unit structure

The specification for the Pearson BTEC Level 3 Diploma in Professional Competence for IT and Telecoms Professionals (Northern Ireland) includes Level 1, 2, 3 and 4 units in the qualification structures.

Most of the unit titles at Level 1 are the same for Level 2, and 3. The only differences in the unit are the levels and credit values.

To differentiate between each of the unit levels, the following unit numbering system is used in this specification.

The first value in the unit number represents the level of the unit. For example:

Unit 103 Customer Care in ICT is a Level 1 unit,

Unit 201 Customer Care in ICT is a Level 2 unit and

Unit **3**01 Customer Care in ICT is a Level 3 unit and so on, even though it shares the same unit title as Level 1 and 2.

The first value of the unit number is marked 1, 2, 3 or 4 to identify the level.

#### **Pathways**

For the Pearson BTEC Level 3 Diploma in Professional Competence for IT and Telecoms Professionals (Northern Ireland), learners must choose EITHER the Digital Telecoms pathway or the Cybersecurity pathway.

Their choice of pathway is made via **Group B**: **Pathway mandatory units**, where learners have a choice of two units, one of which relates to Digital Telecoms and the other to Cybersecurity.

#### Pearson BTEC Level 3 Diploma in Professional Competence for IT and Telecoms Professionals (Northern Ireland)

The requirements outlined in the tables below must be met for Pearson to award the qualification.

#### Fibre Telecoms pathway

Minimum number of credits that must be achieved	72
Minimum number of credits that must be achieved at Level 3 or above	44
Number of mandatory credits (from Group A) that must be achieved	12
Number of pathway mandatory credits (from Group B) that must be achieved	15
Number of optional credits (from Groups C and D) that must be achieved	45
(Note that learners may select all 45 optional credits from Group C)	
Maximum number of optional credits that can be achieved from Group D	12

#### Cybersecurity pathway

Minimum number of credits that must be achieved	72
Minimum number of credits that must be achieved at Level 3 or above	44
Number of mandatory credits (from Group A) that must be achieved	12
Number of pathway mandatory credits (from Group B) that must be achieved	12
Number of optional credits (from Groups C and D) that must be achieved	48
(Note that learners may select all 48 optional credits from Group C)	
Maximum number of optional credits that can be achieved from Group D	12

Mandatory units Group A	Pearson BTEC Level 3 Diploma in Professional Competence for IT and Telecoms Professionals (Northern Ireland)
Learners must achieve both units in this group.	

Unit Credit Guided Unit **Title** Level number reference **learning** hours number 101 1 3 15 Y/500/7183 Health and Safety in ICT 3 9

45

D/503/5549

Develop Own Effectiveness

and Professionalism

302

Pathway	Pearson BTEC Level 3 Diploma in Professional
mandatory units	Competence for IT and Telecoms Professionals (Northern
Group B	Ireland)

Learners must achieve ONE of the units in this group. The unit chosen will determine the qualification pathway: EITHER the Digital Telecoms pathway (Fibre Telecommunications Techniques) OR the Cybersecurity pathway (Security of ICT Systems).

Unit number	Title	Level	Credit	Guided learning hours	Unit reference number
347	Installing Telecoms Techniques	3	12	80	T/651/0472
317	Security of ICT Systems	3	12	100	D/500/7220

Optional units	Pearson BTEC Level 3 Diploma in Professional
Group C and	Competence for IT and Telecoms Professionals (Northern
Group D	Ireland)

A minimum of 45 credits to be completed from the optional units, of which a maximum of 12 can be completed from the Restricted Optional Group, Group D, for learners taking the Fibre Telecoms pathway.

A minimum of 48 credits to be completed from the optional units, of which a maximum of 12 can be completed from the Restricted Optional Group, Group D, for learners taking the Cybersecurity pathway.

Note that learners may select all of their optional credits from Group C.

Optional units	No more than one unit to be completed from each
Group C	section.

Unit number	CC - Customer Care	Level	Credit	Guided learning hours	Unit reference number
103	Customer Care in ICT	1	6	35	J/650/6608
203	Customer Care in ICT	2	9	45	A/500/7158
303	Customer Care in ICT	3	12	100	F/500/7159
440	Customer Care for IT and Telecoms Professionals	4	12	100	H/504/5502

Unit number	IW - Interpersonal and Written Communication Skills	Level	Credit	Guided learning hours	Unit reference number
104	Interpersonal and Written Communication	1	3	25	M/500/7206
204	Interpersonal and Written Communication	2	9	60	T/500/7207
304	Interpersonal and Written Communication	3	12	100	A/500/7208

Unit number	FD - Technical Fault Diagnosis	Level	Credit	Guided learning hours	Unit reference number
206	Technical Fault Diagnosis	2	9	45	T/601/3292
306	Technical Fault Diagnosis	3	12	75	A/601/3293
406	Technical Fault Diagnosis	4	15	90	L/500/7391

Unit number	HW - Working with ICT Hardware and Equipment	Level	Credit	Guided learning hours	Unit reference number
107	Working with ICT Hardware and Equipment	1	6	45	H/500/7381
207	Working with ICT Hardware and Equipment	2	9	80	K/500/7382
307	Working with ICT Hardware and Equipment	3	12	100	M/500/7383
407	Working with ICT Hardware and Equipment	4	15	90	T/500/7384

Unit number	CA - Customer Apparatus and Line Installation	Level	Credit	Guided learning hours	Unit reference number
314	Customer Apparatus and Line Installation	3	22	66	R/650/6610

Unit number	RS - Remote Support for Products and Services	Level	Credit	Guided learning hours	Unit reference number
116	Remote Support for Products or Services	1	6	45	R/500/7215
216	Remote Support for Products or Services	2	9	60	Y/500/7216
316	Remote Support for Products or Services	3	12	100	D/500/7217
416	Remote Support for Products or Services	4	15	90	A/602/1264

Unit number	SC - Security of ICT Systems	Level	Credit	Guided learning hours	Unit reference number
117	Security of ICT Systems	1	3	20	K/500/7219
417	Security of ICT Systems	4	15	90	H/500/7221

Unit number	SI - Software Installation and Upgrade	Level	Credit	Guided learning hours	Unit reference number
118	Software Installation and Upgrade	1	6	50	D/500/7265
218	Software Installation and Upgrade	2	9	80	D/500/7329
318	Software Installation and Upgrade	3	12	100	R/500/7330

Unit number	SM - System Management	Level	Credit	Guided learning hours	Unit reference number
219	System Management	2	6	55	Y/500/7331
319	System Management	3	12	100	D/500/7332
442	IT and Telecoms System Management	4	15	90	M/504/5504

Unit number	SO - System Operation	Level	Credit	Guided learning hours	Unit reference number
120	System Operation	1	6	50	H/500/7333
220	ICT System Operation	2	9	45	F/500/7338
320	System Operation	3	12	100	A/500/7340
443	IT and Telecoms System Operation	4	15	90	R/504/5513

Unit number	TA - Technical Advice and Guidance	Level	Credit	Guided learning hours	Unit reference number
221	Technical Advice and Guidance	2	9	50	F/601/3506
321	Technical Advice and Guidance	3	12	75	J/601/3507
421	Technical Advice and Guidance	4	15	90	Y/500/7345

Unit number	TE - Testing ICT Systems	Level	Credit	Guided learning hours	Unit reference number
122	Testing ICT Systems	1	6	50	T/500/7353
222	Testing ICT Systems	2	9	80	A/500/7354
322	Testing ICT Systems	3	12	100	F/500/7355
441	Testing IT and Telecoms Systems	4	15	90	K/504/5503

Unit number	UP - User Profile Administration	Level	Credit	Guided learning hours	Unit reference number
223	User Profile Administration	2	6	55	H/500/7378
323	User Profile Administration	3	9	80	K/500/7379

BOWMAN		For military use only					
324	7		3	19	150	K/501/3912	

Unit number	CF – Copper and Fibre units	Level	Credit	Guided learning hours	Unit reference number
335	Copper Cable Jointing and Closure Techniques	3	23	120	L/601/0656
236	Introduction to Fibre Telecommunications	2	2	15	L/650/4864
336	Fibre Telecommunications Techniques	3	15	80	H/601/0663

Restricted	<b>Optional</b>
units	
<b>Group D</b>	

Learners may complete a maximum of 12 credits. No more than one unit to be completed from each section.

Unit number	EM - Using Email	Level	Credit	Guided learning hours	Unit reference number
127	Using Email	1	2	15	J/502/4299
227	Using Email	2	3	20	M/502/4300
327	Using Email	3	3	20	T/502/4301

Unit number	NT - Using the Internet	Level	Credit	Guided learning hours	Unit reference number
128	Using the Internet	1	3	20	T/502/4296
228	Using the Internet	2	4	30	A/502/4297
328	Using the Internet	3	5	40	F/502/4298

Unit number	PS - Presentation Software	Level	Credit	Guided learning hours	Unit reference number
129	Presentation Software	1	3	20	K/502/4621
229	Presentation Software	2	4	30	M/502/4622
329	Presentation Software	3	6	45	T/502/4623

Unit number	WP - Word Processing Software	Level	Credit	Guided learning hours	Unit reference number
132	Word Processing Software	1	3	20	L/502/4627
232	Word Processing Software	2	4	30	R/502/4628
332	Word Processing Software	3	6	45	Y/502/4629

### 4 Assessment requirements

The units in these qualifications are all internally assessed.

#### Assessment strategy

The assessment strategy for this qualification is included in *Annexe A*. It sets out the overarching assessment requirements and the framework for assessing the units to ensure that the qualification remains valid and reliable. It has been developed by e-skills UK in partnership with employers, training providers, awarding organisations and the regulatory authorities. The assessment strategy includes details on:

- criteria for defining realistic working environments
- roles and occupational competence of assessors, expert witnesses, internal verifiers and standards verifiers
- quality control of assessment
- evidence requirements.

#### Language of assessment

Learners must use English or Irish only during the assessment of this qualification.

A learner taking the qualifications may be assessed in British or Irish Sign Language where it is permitted for the purpose of reasonable adjustment.

Further information on the use of language in qualifications is available in our *Use of languages in qualifications policy,* available on our website.

#### Internal assessment

The units in these qualifications are assessed through an internally- and externally quality-assured Portfolio of Evidence made up of evidence gathered during the course of the learner's work.

Each unit has specified learning outcomes and assessment criteria. To pass each unit, learners must:

- achieve all the specified learning outcomes
- satisfy **all** the assessment criteria by providing sufficient and valid evidence for each criterion
- prove that the evidence is their own.

Learners must have an assessment record that identifies the assessment criteria that have been met. The assessment record should be cross-referenced to the evidence provided. The assessment record should include details of the type of evidence and the date of assessment. Suitable centre documentation should be used to form an assessment record.

#### Presenting evidence

In line with the assessment strategy, evidence for internally-assessed units can take a variety of forms as indicated below:

- direct observation of the learner's performance by their assessor (O)
- outcomes from oral or written questioning (Q&A)
- products of the learner's work (P)
- personal statements and/or reflective accounts (RA)
- outcomes from simulation, where permitted by the assessment strategy (S)
- professional discussion (PD)
- authentic statements/witness testimony (WT)
- expert witness testimony (EWT)
- evidence of Recognition of Prior Learning (RPL).

Learners can use the abbreviations in their portfolios for cross-referencing purposes.

Learners can also use one piece of evidence to prove their knowledge, skills and understanding across different assessment criteria and/or across different units. It is not necessary for learners to have each assessment criterion assessed separately. They should be encouraged to reference evidence to the relevant assessment criteria. However, the evidence provided for each unit must clearly reference the unit being assessed. Evidence must be available to the assessor, the internal verifier and the Pearson Standards Verifier.

Any specific evidence requirements for a unit are given in the *Unit assessment* requirements section of the unit.

#### Assessment of knowledge and understanding

Knowledge and understanding are key components of competent performance, but it is unlikely that performance evidence alone will provide sufficient evidence for knowledge-based learning outcomes and assessment criteria. Where the learners' knowledge and understanding is not apparent from performance evidence, it must be assessed through other valid methods and be supported by suitable evidence. The evidence provided to meet these learning outcomes and assessment criteria must be in line with the assessment strategy. Any specific assessment requirements are stated in the *Unit assessment requirements* section of each unit in *Section 9 Units*.

#### **Assessor requirements**

Centres must ensure:

- assessment is carried out by assessors with relevant expertise in both the occupational area and assessment. The requirements for assessor qualifications and experience are stated in the assessment strategy in *Annexe A*
- internal verification systems are in place to ensure the quality and authenticity of learners' work, as well as the accuracy and consistency of assessment. The requirements of internal verifiers (IVs) are stated in the assessment strategy in *Annexe A.*

# 5 Centre recognition and approval

Centres must have approval prior to delivering or assessing any of the units in this qualification.

Centres that have not previously offered Pearson competence-based qualifications need to apply for, and be granted, centre recognition and approval to offer individual qualifications.

Existing Pearson centres seeking approval to offer Pearson competence-based qualifications, will be required to submit supplementary evidence for approval, aligned with the associated Standards and/or assessment requirements.

Guidance on seeking approval to deliver Pearson vocational qualifications is available on our website.

#### Approvals agreement

All centres are required to enter into an approval agreement with Pearson, in which the head of centre or principal agrees to meet all the requirements of the qualification specification and to comply with the policies, procedures, codes of practice and regulations of Pearson and relevant regulatory bodies. If centres do not comply with the agreement, this could result in the suspension of certification or withdrawal of centre or qualification approval.

#### Centre resource requirements

As part of the approval process, centres must make sure that the resource requirements below are in place before offering the qualifications:

- appropriate physical resources as outlined in the assessment strategy in *Annexe A* (for example a workplace in line with industry standards or a Realistic Working Environment (RWE), where permitted)
- centres must meet any specific human resource requirements outlined in the assessment strategy in *Annexe A*
- staff assessing learners and internally verifying programmes must meet the occupational competence requirements in the assessment strategy
- systems to ensure continuing professional development (CPD) for staff delivering, assessing and internally verifying the qualifications
- health and safety policies that relate to the use of equipment by learners
- internal verification systems and procedures (see Section 4 Assessment requirements)
- any unit-specific resources stated in individual units.

# 6 Access to qualifications

# Access to qualifications for learners with disabilities or specific needs

Equality and fairness are central to our work. Our *Equality, diversity and inclusion policy* requires all learners to have equal opportunity to access our qualifications and assessments, and that our qualifications are awarded in a way that is fair every learner.

We are committed to making sure that:

- learners with a protected characteristic (as defined by the Equality Act 2010) are not, when they are taking one of our qualifications, disadvantaged in comparison to learners who do not share that characteristic
- all learners achieve the recognition they deserve from their qualification and that this achievement can be compared fairly to the achievement of their peers.

For learners with disabilities and specific needs, the assessment of their potential to achieve the qualification must identify, where appropriate, the support that will be made available to them during delivery and assessment of the qualifications.

Centres must deliver the qualifications in accordance with current equality legislation. For full details of the Equality Act 2010, please visit <a href="www.legislation.gov.uk">www.legislation.gov.uk</a>.

#### Reasonable adjustable and special consideration

Centres are permitted to make adjustments to assessment to take account of the needs of individual learners. Any reasonable adjustment must reflect the normal learning or working practice of a learner in a centre or a learner working in the occupational area.

Centres cannot apply their own special consideration – applications for special consideration must be made to Pearson and can be made on a case-by-case basis only.

Centres must follow the guidance in the Pearson document *Guidance for reasonable* adjustments and special consideration in vocational internally assessed units.

# 7 Recognising prior learning and achievement

Recognition of Prior Learning (RPL) considers whether a learner can demonstrate that they can meet the assessment requirements for a unit through knowledge, understanding or skills they already possess and so do not need to develop through a course of learning.

Pearson encourages centres to recognise learners' previous achievements and experiences in and outside the workplace, as well as in the classroom. RPL provides a route for the recognition of the achievements resulting from continuous learning.

RPL enables recognition of achievement from a range of activities using any valid assessment methodology. If the assessment requirements of a given unit or qualification have been met, the use of RPL is acceptable for accrediting a unit, units or a whole qualification. Evidence of learning must be sufficient, reliable and valid.

Further guidance is available in our policy document *Recognition of prior learning policy and process*, available on our website.

# 8 Quality assurance of centres

For the qualification in this specification, the Pearson quality assurance model will consist of the following processes.

Centres will receive at least one visit from our Standards Verifier, followed by ongoing support and development. This may result in more visits or remote support, as required to complete standards verification. The exact frequency and duration of Standards Verifier visits/remote sampling will reflect the level of risk associated with a programme, taking account of the:

- number of assessment sites
- number and throughput of learners
- number and turnover of assessors
- number and turnover of internal verifiers
- amount of previous experience of delivery.

If a centre is offering a Pearson competence-based qualification alongside other qualifications related to a similar Apprenticeship Standard, wherever possible we will allocate the same Standards Verifier for both qualifications.

Following registration, centres will be given further quality assurance and sampling guidance.

For further details, please see the work-based learning quality assurance handbooks, available in the support section of our website:

- Pearson Work-based Learning Centre Guide to Quality Assurance
- Pearson Work-based Learning Delivery Guidance & Quality Assurance Requirements.

#### 9 Units

This section of the specification contains the units that form the assessment for the qualification.

For explanation of the terms within the units, please refer to Section 13 Glossary.

It is compulsory for learners to meet the learning outcomes and the assessment criteria to achieve a Pass. The unit assessment requirements must also be met by the evidence that is provided by the learner.

Where legislation is included in delivery and assessment, centres must ensure that it is current and up to date.

#### Unit 101: Health and Safety in ICT

Unit reference number: Y/500/7183

Level: 1

Credit value: 3

Guided learning hours: 15

#### **Unit summary**

This unit explores compliance with health and safety legislation when working in ICT.

The basis of health and safety law is the Health and Safety at Work Act 1974. The Act sets out the general duties which employers have towards employees and members of the public, and employees have to themselves and to each other.

What the law requires here is what good management and common sense would lead individuals and organisations to do anyway: that is, identify risks and take sensible measures to tackle them.

Health and safety legislation impacts not only on those who are employed at work, but on visitors, bystanders and customers who may be affected by actions of those engaged in work activities.

Health and safety legislation is subject to constant review, and new legislation is introduced on a regular basis. This constant change must be monitored by organisations and individuals to identify actions required to remain compliant. Interpretation of the legislation may also be modified as a result of case law or other legal guidance.

#### Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

#### Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Lea	Learning outcomes		ssment criteria	Evidence type	Portfolio reference	Date
1	Comply with relevant health and safety	1.1	Identify relevant organisational health and safety procedures			
	procedures	1.2	Identify available sources of health and safety information			
		1.3	Demonstrate how relevant health and safety procedures have been followed			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

#### Unit 302: Develop Own Effectiveness and Professionalism

Unit reference number: D/503/5549

Level: 3

Credit value: 9

Guided learning hours: 45

#### **Unit summary**

This unit involves personal development, team working and an understanding of IT professional practice and legislation.

#### Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

#### Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Lea	arning outcomes	Asse	ssment criteria	Evidence type	Portfolio reference	Date
1	Develop own personal and professional skills	1.1	Identify own development needs and the activities needed to meet them			
		1.2	Obtain and review feedback from others on performance			
		1.3	Agree personal goals and participate in development activities to meet them			
2	Work as a member of a team to achieve defined goals and implement agreed plans	2.1	Effectively plan and manage own time			
		2.2	Recognise and respect diversity, individual differences and perspectives			
		2.3	Accept and provide feedback in a constructive and considerate manner			
		2.4	Understand the responsibilities, interests and concerns of colleagues			
		2.5	Identify and reduce obstacles to effective teamwork			
3	Understand what is meant by professional	3.1	Describe the implications, and applicability for IT professionals of:			
	practice		Data Protection Act			
			Computer Misuse Act			

Lea	arning outcomes	Asse	ssment criteria	Evidence type	Portfolio reference	Date
		3.2	Identify the role of professional bodies for IT, and the benefits of membership to individuals and organisations			
		3.3	Describe quality management systems and standards for systems development			
4	Understand the ethical and legislative	4.1	Identify the types of conflicts of interest which can arise for IT professionals			
	environment relating to IT activities	4.2	Describe the impact on an IT organisation of legislation covering:  • processing of financial transactions  • health and safety  • privacy, confidentiality and security			
5	Improve organisational	5.1	<ul> <li>copyright and intellectual property rights</li> <li>Describe the aims and objectives of the organisation</li> </ul>			
	offostivonoss	5.2	Describe the organisation's brand or image and how it can be promoted			
		5.3	Identify the organisation's structure, roles and responsibilities			
		5.4	Identify potential improvements to organisational effectiveness			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:

Internal verifier signature:	Date:
(if sampled)	

#### Unit 103: Customer Care in ICT

Unit reference number: J/650/6608

Level: 1

Credit value: 6

Guided learning hours: 35

#### **Unit summary**

This is the identification of, and response to, customer needs to ensure customer satisfaction. This level 1 unit will typically involve direct customer contact.

Typically this will involve:

- the maintenance of a successful balance between customer needs and the needs of the organisation
- the monitoring of customer satisfaction through the use of formal and informal assessment techniques (e.g. surveys, feedback etc.)
- the handling and resolution of customer issues and complaints in a constructive manner that ensures customer satisfaction.

#### Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

#### Learning outcomes and assessment criteria

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Know how to provide customer care in a familiar context	1.1	Describe simple uses of interpersonal communication techniques such as:  • verbal (e.g. intonation, tone and feedback (sometimes referred to as verbal attends)) and non-verbal techniques (e.g. smiling while talking on the phone, body language)  • attentive listening (i.e. difference between hearing and listening)  • positive and negative language			
	1.2	1.2	<ul> <li>Identify the specified parts of the organisational requirements for customer care including:         <ul> <li>customer service procedures (e.g. how to log customer information, how to initiate service calls, how to complete a sale)</li> <li>authorisation procedures (e.g. how to confirm caller identity, how to validate requests)</li> <li>escalation, resolution and complaint handling</li> <li>quality assurance procedures</li> </ul> </li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		1.3	<ul> <li>compliance with relevant legislation and regulations (e.g. data protection, financial services)</li> <li>Describe the specified methods of measuring customer satisfaction levels such as predefined formal feedback</li> </ul>			
2	Provide customer care in a familiar context	2.1	Comply with organisational requirements			
		2.2	Communicate interpersonally on a familiar subject in a familiar work situation such as:  • following organisational guidelines and procedures			
		2.3	<ul> <li>Provide customer interaction such as:</li> <li>focuses on addressing customer needs</li> <li>interacts in a sensitive and helpful manner with the customer</li> </ul>			
		2.4	<ul> <li>Providing service delivery such as:</li> <li>recognising own limitations</li> <li>escalating customer issues following organisational requirements</li> <li>Gather specified customer satisfaction information</li> </ul>			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:

Internal verifier signature:	Date:
(if sampled)	

#### Unit 203: Customer Care in ICT

Unit reference number: A/500/7158

Level: 2

Credit value: 9

Guided learning hours: 45

#### **Unit summary**

This is the identification of, and response to, customer needs to ensure customer satisfaction. This level 2 unit will typically involve direct customer contact.

Typically this will involve:

- the maintenance of a successful balance between customer needs and the needs of the organisation
- the monitoring of customer satisfaction through the use of formal and informal assessment techniques (e.g. surveys, feedback etc.)
- the handling and resolution of customer issues and complaints in a constructive manner that ensures customer satisfaction.

## Assessment methodology

Le	Learning outcomes		rning outcomes Assessment criteria		Evidence type	Portfolio reference	Date
1	Know how to provide customer care by establishing customer relationships	1.1	Describe the uses of interpersonal communication techniques such as:  • verbal (e.g. intonation, tone and feedback (sometimes referred to as verbal attends)) and non-verbal techniques (e.g. smiling while talking on the phone, body language)				
			<ul> <li>attentive listening (i.e. difference between hearing and listening)</li> </ul>				
			positive and negative language				
			<ul> <li>active listening (e.g. summarising, paraphrasing, body language)</li> </ul>				
			<ul> <li>listening barriers (e.g. background noise, distractions, lack of concentration)</li> </ul>				
			• types of question (e.g. open, closed and probing)				
		1.2	Describe the relevant parts of the organisational requirements for customer care including:				

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<ul> <li>customer service procedures (e.g. how to log customer information, how to initiate service calls, how to complete a sale)</li> </ul>			
	<ul> <li>authorisation procedures (e.g. how to confirm caller identity, how to validate requests)</li> </ul>			
	<ul> <li>escalation, resolution and complaint handling</li> <li>quality assurance procedures</li> <li>compliance with relevant legislation and regulations (e.g. data protection, financial services)</li> </ul>			
	<ul> <li>maintenance and communication of organisational brand or image</li> <li>organisational aims and objectives</li> </ul>			
	1.3 Describe what the implications of customer satisfaction are:  • customer retention • working relationships			
	<ul> <li>Describe the relevant methods of measuring customer satisfaction levels such as:</li> <li>predefined formal feedback</li> <li>unsolicited feedback</li> <li>anecdotal feedback</li> </ul>			
2	2.1 Comply with organisational requirements			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
Provide customer care by establishing customer relationships	<ul> <li>Communicate interpersonally on familiar subjects such as: <ul> <li>following organisational guidelines and procedures</li> <li>articulating and expressing ideas clearly and concisely</li> <li>listening actively (e.g. by taking notes)</li> <li>clarifying and confirming understanding (e.g. by paraphrasing or repetition).</li> <li>responding to questions with accurate information</li> <li>ensuring content is appropriate to the needs of the audience</li> <li>identifying and avoiding listening barriers</li> <li>maintaining focus on the purpose of the communication</li> </ul> </li></ul>			
	<ul> <li>Providing customer interaction such as:</li> <li>focuses on addressing customer needs</li> <li>interacts in a sensitive and helpful manner with the customer</li> <li>responds to customer requests on time, accurately, pleasantly and professionally</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<ul> <li>builds a trusting relationship with the custome</li> <li>keeps self and customer focused</li> <li>maintains consistent communication style</li> <li>2.4 Provide service delivery such as:         <ul> <li>recognising own limitations</li> <li>escalating customer issues following organisational requirements</li> <li>meets own commitments to customers</li> <li>follows up customer problems and issues</li> </ul> </li> <li>2.5 Handle complaints from customers such as:         <ul> <li>using probing questions</li> <li>displaying patience and understanding with demanding or emotional customers</li> </ul> </li> </ul>	r		
	2.6 Gather specified customer satisfaction information			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

Unit 303: Customer Care in ICT

Unit reference number: F/500/7159

Level: 3

Credit value: 12

Guided learning hours: 100

### **Unit summary**

This is the identification of, and response to, customer needs to ensure customer satisfaction.

At level 3, a learner can provide customer care by developing customer relationships and contribute to improving the delivery of service.

#### Assessment methodology

Lea	arning outcomes	Asse	ssment criteria	Evidence type	Portfolio reference	Date
1	Understand how to provide ICT customer	1.1	Describe the uses of interpersonal communication techniques			
	care by developing customer relationships	1.2	Explain the different approaches and methods used for supporting technical and non-technical customers			
		1.3	Describe the organisational requirements for ICT customer care			
		1.4	Explain the effect of ICT customer care on the rest of the organisation			
2	customer care by	2.1	Monitor compliance with organisational requirements for ICT customer support			
		2.2	Follow organisational guidelines and procedures to communicate with customers			
		2.3	Interact effectively with customers to achieve agreed outcome			
3	Be able to contribute to improving the delivery of	3.1	Describe the implications of customer satisfaction for the business			
	service	3.2	Describe the methods of measuring customer satisfaction levels			

Lea	arning outcomes	Asse	ssment criteria	Evidence type	Portfolio reference	Date
		3.3	Suggest improvements to ICT service delivery			
		3.4	Handle complaints from customers following organisational guidelines			
		3.5	Gather specified customer satisfaction information			
		3.6	Analyse specified customer satisfaction information			
		3.7	Report on specified customer satisfaction information			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

## Unit 104: Interpersonal and Written Communication

Unit reference number: M/500/7206

Level: 1

Credit value: 3

Guided learning hours: 25

#### **Unit summary**

This is the ability to communicate using language and terminology that is appropriate to the audience.

Typically this will involve:

- establishment of rapport with individuals through active listening
- composition of written material (e.g. documentation, emails, faxes, letters or presentations)
- successful interaction with individuals and groups.

This involves both receiving (e.g. lip-reading, listening and reading) and sending or giving (e.g. signing, speaking, presenting and writing) information.

A competent person at level 1 can communicate simple information in a familiar context.

## Assessment methodology

Lea	arning outcomes	Assessment criteria		Evidence type	Portfolio reference	Date
1	Communicate interpersonally on a familiar subject in a familiar work situation	1.1	Apply knowledge of the following interpersonal communication techniques:  • verbal (e.g. intonation, tone and feedback (sometimes referred to as verbal attends)) and non-verbal techniques (e.g. smiling while talking on the phone, body language)			
			<ul> <li>attentive listening (i.e. difference between hearing and listening)</li> <li>positive and negative language</li> </ul>			
		1.2	Communicate verbally following organisational guidelines and procedures			
2	Communicate in writing on familiar subjects using specified formats	2.1	Apply knowledge of the following written communication techniques:  • grammar, spelling			
		2.2	Use the following techniques to produce and interpret written communication:  • following organisational guidelines and procedures			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<ul> <li>identifying and conveying key messages in writing (e.g. letter, fax, email, database notes)</li> <li>using correct grammar and spelling</li> </ul>			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

## Unit 204: Interpersonal and Written Communication

Unit reference number: T/500/7207

Level: 2

Credit value: 9

Guided learning hours: 60

#### **Unit summary**

This is the ability to communicate using language and terminology that is appropriate to the audience.

Typically this will involve:

- establishment of rapport with individuals through active listening
- composition of written material (e.g. documentation, emails, faxes, letters or presentations)
- successful interaction with individuals and groups.

This involves both receiving (e.g. lip-reading, listening and reading) and sending or giving (e.g. signing, speaking, presenting and writing) information.

A competent person at level 2 can communicate information in familiar contexts.

## Assessment methodology

Le	arning outcomes	Asse	Assessment criteria		Portfolio reference	Date
1	Send and receive familiar information by communicating interpersonally in familiar situations	1.1	<ul> <li>Apply knowledge of the following interpersonal communication techniques:</li> <li>verbal (e.g. intonation, tone and feedback (sometimes referred to as verbal attends)) and non-verbal techniques (e.g. smiling while talking on the phone, body language)</li> <li>attentive listening (i.e. difference between hearing and listening)</li> <li>positive and negative language</li> <li>active listening (e.g. summarising, paraphrasing, body language)</li> <li>listening barriers (e.g. background noise,</li> </ul>			
			<ul><li>distractions, lack of concentration)</li><li>types of question (e.g. open, closed and probing)</li></ul>			
		1.2	Use the following interpersonal communication techniques:  • modulating voice when speaking to suit the listener or audience			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
		<ul> <li>articulating and expressing ideas clearly and concisely</li> </ul>			
		<ul> <li>listening actively (e.g. by taking notes)</li> </ul>			
		<ul> <li>clarifying and confirming understanding (e.g. by paraphrasing or repetition)</li> </ul>			
		<ul> <li>responding to questions with accurate information</li> </ul>			
		<ul> <li>ensuring content is appropriate to the needs of the audience</li> </ul>			
		<ul> <li>identifying and avoiding listening barriers</li> </ul>			
		<ul> <li>maintaining focus on the purpose of the communication</li> </ul>			
2	Communicate in writing	2.1 Apply knowledge of the following written communication	1		
	in familiar situations	techniques:  • grammar, spelling			
		2.2 Use the following techniques to produce and interpret written communication			
		<ul> <li>following organisational guidelines and procedures</li> </ul>			
		<ul> <li>identifying and conveying key messages in writing (eg letter, fax, email, database notes)</li> </ul>			
		<ul> <li>using correct grammar and spelling</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<ul> <li>using and understanding appropriate business or technical terminology</li> </ul>			
	<ul> <li>ensuring content, format and style are appropriate to the audience and channel (eg letter, memo, fax, email, web chat)</li> </ul>			
	structuring writing into a logical framework			
	conveying ideas and information in a clear and concise manner			
	<ul> <li>identifying relevant information in written communications</li> <li>reviewing or proof reading own written work</li> </ul>			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

## Unit 304: Interpersonal and Written Communication

Unit reference number: A/500/7208

Level: 3

Credit value: 12

Guided learning hours: 100

#### **Unit summary**

This is the ability to communicate using language and terminology that is appropriate to the audience.

Typically this will involve:

- establishment of rapport with individuals through active listening
- composition of written material (e.g. documentation, emails, faxes, letters or presentations)
- successful interaction with individuals and groups.

This involves both receiving (e.g. lip-reading, listening and reading) and sending or giving (e.g. signing, speaking, presenting and writing) information.

A competent person at level 3 can communicate complex information in a range of familiar contexts.

### Assessment methodology

Le	arning outcomes	Asse	Assessment criteria		Portfolio reference	Date
1	Send and receive complex information by communicating interpersonally	1.1	Apply knowledge of the following interpersonal communication concepts:  • verbal (e.g. intonation, tone and feedback (sometimes referred to as verbal attends)) and non-verbal techniques (e.g. smiling while talking on the phone, body language).			
			attentive listening (i.e. difference between hearing and listening)			
			positive and negative language			
			<ul> <li>active listening (e.g. summarising, paraphrasing, body language)</li> </ul>			
			<ul> <li>listening barriers (e.g. background noise, distractions, lack of concentration)</li> </ul>			
			• types of question (e.g. open, closed and probing)			
			<ul> <li>how to adapt style (e.g. intonation, inflexion, business or technical terminology and vocabulary) to audience needs</li> </ul>			

Learning outcomes	Asse	Assessment criteria		Portfolio reference	Date
		how to reduce listening barriers			
		cultural differences			
	1.2	Use the following interpersonal communication techniques:  • modulating voice when speaking to suit the listener or audience			
		<ul> <li>articulating and expressing ideas clearly and concisely</li> </ul>			
		<ul> <li>listening actively (e.g. by taking notes)</li> </ul>			
		<ul> <li>clarifying and confirming understanding (e.g. by paraphrasing or repetition)</li> </ul>			
		<ul> <li>responding to questions with accurate information</li> </ul>			
		<ul> <li>ensuring content is appropriate to the needs of the audience</li> </ul>			
		<ul> <li>identifying and avoiding listening barriers</li> </ul>			
		<ul> <li>maintaining focus on the purpose of the communication</li> </ul>			
		select appropriate communication styles			
		<ul> <li>adapt terminology and vocabulary to the needs of the audience</li> </ul>			
		reduce barriers to listening			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Understand and use written communication	2.1	<ul> <li>differentiate between facts and feelings</li> <li>Apply knowledge of the following written communication concepts:</li> </ul>			
	techniques		<ul><li>grammar, spelling</li><li>business or technical terminology</li></ul>			
			format and style for different communication channels (e.g. letter, memo, email and fax)			
		2.2	<ul><li>Use the following written communication techniques:</li><li>following organisational guidelines and procedures</li></ul>			
			<ul> <li>identifying and conveying key messages in writing (e.g. letter, fax, email, database notes</li> </ul>			
			<ul> <li>using correct grammar and spelling</li> <li>using and understanding appropriate business or technical terminology</li> </ul>			
			<ul> <li>ensuring content, format and style are appropriate to the audience and channel (e.g. letter, memo, fax, email, web chat)</li> </ul>			
			structuring writing into a logical framework			
			<ul> <li>conveying ideas and information in a clear and concise manner</li> </ul>			
			<ul> <li>identifying relevant information in written communications</li> </ul>			

Learning outcomes		Asse	Assessment criteria		Portfolio reference	Date
			<ul> <li>reviewing or proof reading own written work</li> <li>developing messages that convey alternative viewpoints</li> <li>extracting key messages from written correspondence</li> <li>reviewing and editing documents created by others</li> </ul>			
3	Provide guidance to immediate colleagues on how to communicate information	3.1	Provide guidance to immediate colleagues on how to communicate information			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

# Unit 206: Technical Fault Diagnosis

Unit reference number: T/601/3292

Level: 2

Credit value: 9

Guided learning hours: 45

### **Unit summary**

This unit introduces knowledge of the process, methods and information that are used in the diagnostic process and their practical application in the diagnosis of a limited range of faults. It also covers selection of remedies for identified faults and maintenance of relevant records.

#### Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

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Le	arning outcomes	Asse	Assessment criteria		Portfolio reference	Date
1	Know the process, methods and information that are used in the diagnostic process	1.1	Identify the steps of the diagnostic process including:  • fault validation  • information gathering  • information analysis  • solution identification			
		1.2	Describe the types of diagnostic information that are commonly needed and their purpose			
		1.3	Describe common diagnostic methods to include:			
		1.4	List typical considerations affecting fault diagnosis, e.g.  minimisation of service disruption during diagnostics  individual responsibility and authority			

Learning outcomes		Asse	Assessment criteria		Portfolio reference	Date
			<ul> <li>escalation procedure</li> <li>level of service</li> </ul>			
2	Apply processes to diagnose faults with a known range of causes and assist in the diagnosis of other faults	2.1	<ul> <li>Correctly use appropriate diagnostic tools e.g.</li> <li>electrical/electronic test instruments</li> <li>on-board self-test programs</li> <li>loopback devices</li> <li>on-line/remote monitoring</li> <li>diagnostic software</li> </ul>			
	_	2.2	Effectively use given sources of information to support diagnosis  Analyse information to identify the cause of faults, using two of the following approaches:  • gap analysis  • identification of cause and effect  • flow charts			
3	Select fault remedies from given alternatives	3.1	Select, from given alternatives, a suitable remedy to rectify identified faults taking into account the following:  • business or service impact  • resource and skill availability  • ease of implementation  Identify possible ways to prevent reoccurrence of diagnosed faults			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Maintain diagnosis and remedy records	4.1	Accurately document the diagnosis activities undertaken including:  • fault description  • supporting information  • diagnostic tools etc used  • cause of fault  • remedy selected			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

# Unit 306: Technical Fault Diagnosis

Unit reference number: A/601/3293

Level: 3

Credit value: 12

Guided learning hours: 75

### **Unit summary**

This unit develops a detailed understanding of the process, methods and information that are used in the diagnostic process and their practical application in the diagnosis to a range of faults. It also covers selection of remedies for identified faults and maintenance of relevant records.

#### Assessment methodology

Lear	rning outcomes	Assessment criteria		Evidence type	Portfolio reference	Date
	Understand the processes, methods and information that are used in the diagnostic process	1.1	<ul> <li>Describe the steps of the diagnostic process including:</li> <li>fault validation</li> <li>information gathering</li> <li>information analysis</li> <li>solution identification</li> </ul>			
		1.2	Describe the types of diagnostic information that are commonly needed:  • problem description  • problem history  • problem location  • technical information on a specified range of products including the system under investigation  Explain the following diagnostic methods and give examples of their appropriate use:  • substitution  • replication			

Lea	Learning outcomes		ssment criteria	Evidence type	Portfolio reference	Date
			<ul><li>performance and functional testing</li><li>environment change</li></ul>			
		1.4	<ul><li>Explain how the following considerations can affect fault diagnosis:</li><li>minimisation of service disruption during</li></ul>			
			<ul><li>diagnostics</li><li>individual responsibility and authority</li></ul>			
			<ul><li>escalation procedure</li><li>service level agreements</li></ul>			
		1.5	Interpret detailed technical information on a range of products			
2	Be able to diagnose faults with a wide range	2.1	Select and correctly use appropriate diagnostic tools to carry out non-routine diagnosis			
	of causes 2.2 2.3	2.2	Select and use given sources of diagnostic and other technical information			
		2.3	Identify and interpret relevant information to support the diagnosis			
		2.4	Analyse information to diagnose faults with a wide range of causes, using at least three of the following approaches:			
			<ul><li>trend analysis</li><li>what-if scenarios</li></ul>			
			gap analysis			

Lea	arning outcomes	Asse	ssment criteria	Evidence type	Portfolio reference	Date
		2.5	<ul> <li>identification of cause and effect</li> <li>flow charts</li> <li>Describe possible ways to prevent reoccurrence of diagnosed faults</li> </ul>			
3)	Select remedies for non-routine faults	3.1	Select a suitable remedy to rectify identified faults taking into account the following:  • business or service impact  • resource and skill availability  • ease of implementation  • cost effectiveness  • performance  • compatibility  • time  • permanence  Identify possible ways to prevent reoccurrence of diagnosed faults			
4	Maintain diagnosis and remedy records	4.1	Accurately document the diagnosis activities undertaken including:  • fault description  • supporting information  • diagnostic tools etc used  • cause of fault			

Le	earning outcomes	Asses	Assessment criteria		Portfolio reference	Date
			remedy selected			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

## Unit 406: Technical Fault Diagnosis

Unit reference number: L/500/7391

Level: 4

Credit value: 15

Guided learning hours: 90

#### **Unit summary**

This unit is about the ability to apply processes and techniques designed to diagnose the causes of faults within a technical context. In most situations this will be followed by the identification of an appropriate remedy for the identified fault (see Technical Fault Remedy Selection AOC).

Faults in the context of IT and telecoms, normally relate to the failure of a system or equipment to act according to normal operating specifications. Faults can be manifested as complete or intermittent failures to operate; erratic or irregular operation; or operation below specified capacity.

## Assessment methodology

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Understand the organisation's	1.1	Describe the maintenance philosophy and processes used by the organisation			
	maintenance philosophy and the methods and information it requires	1.2	Explain the types of diagnostic information that are commonly needed:			
			<ul><li>problem description</li><li>problem history</li></ul>			
			<ul> <li>problem location</li> <li>technical information on a specified range of products including the system under investigation</li> </ul>			
		1.3	Explain the following diagnostic methods and give examples of their appropriate use:  • substitution			
			<ul><li>replication</li><li>performance and functional testing</li><li>environment change</li></ul>			
		1.4	Explain how the following considerations can affect fault diagnosis:			

Lea	arning outcomes	Asse	ssment criteria	Evidence type	Portfolio reference	Date
		1.5	<ul> <li>minimisation of service disruption during diagnostics</li> <li>individual responsibility and authority</li> <li>escalation procedure</li> <li>service level agreements</li> <li>Interpret specialist technical information on a range of products</li> </ul>			
2	Maintain the diagnostic	2.1	Develop diagnostic tools			
	specialist support to others	2.2	Review and specify approved sources of diagnostic information			
		2.3	Review and specify documentation and other recording systems to support diagnosis			
		2.4	Analyse information across a wide range of faults to identify common issues			
		2.5	Review and specify processes for identifying issues such as:  • poor product design  • poor manufacture  • poor performance  • poor implementation  • high rates of failure			
		2.6	Provide specialist guidance to support diagnosis			

Le	Learning outcomes		Assessment criteria		Portfolio reference	Date
3	Select and improve approaches to remedy for non-routine faults	3.1	Review and specify suitable remedies to rectify identified faults taking into account the following:  • business or service impact  • resource and skill availability  • ease of implementation  • cost effectiveness  • performance  • compatibility  • time  • permanence  Identify possible ways to prevent reoccurrence of diagnosed faults			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: uif sampled)	Date:

## Unit 107: Working with ICT Hardware and Equipment

Unit reference number: H/500/7381

Level: 1

Credit value: 6

Guided learning hours: 45

### **Unit summary**

Hardware and equipment in the context of ICT can include: cables, PC boards, racks, rack mounted equipment, poles, masts, aerials, large computer systems. Work can be carried out on, for example: a single monitor or keyboard by a technical courier, single or networked systems or a telephone exchange by a team of technicians/engineers.

#### Assessment methodology

Le	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Know how to carry out work under direction	1.1	Describe the relevant parts of the working process such as:  • tools and techniques to be used  • procedures to be followed  • procedures for information recording  Explain how regulatory requirements affect own work			
2	direction	2.1	Use specified tools and techniques safely  Follow specified working procedures such as:			
			<ul> <li>health and safety</li> <li>quality</li> <li>use of tools</li> </ul>			
			<ul><li>configuration</li><li>testing</li><li>logistics</li><li>waste disposal</li></ul>			

Lea	arning outcomes	Asses	ssment criteria	Evidence type	Portfolio reference	Date
			problem escalation			
			information recording			
			obtaining work permissions			
			<ul> <li>security and confidentiality</li> </ul>			
		2.3	Record specified information connected with work			
			activities			

Learner name:

Learner signature:

Assessor signature:

Internal verifier signature:

Upate:

Date:

#### Unit 207: Working with ICT Hardware and Equipment

Unit reference number: K/500/7382

Level: 2

Credit value: 9

Guided learning hours: 80

### **Unit summary**

Hardware and equipment in the context of ICT can include: cables, PC boards, racks, rack mounted equipment, poles, masts, aerials, large computer systems. Work can be carried out on, for example: a single monitor or keyboard by a technical courier, single or networked systems or a telephone exchange by a team of technicians/engineers.

#### Assessment methodology

Le	Learning outcomes		ssment criteria	Evidence type	Portfolio reference	Date
1	Know how to plan and carry out a range of ICT hardware and equipment work activities under direction	1.1	<ul> <li>Describe the working process such as:</li> <li>tools and techniques to be used</li> <li>procedures to be followed</li> <li>procedures for information recording</li> <li>customer requirements</li> <li>product specifications</li> <li>planning own work</li> </ul>			
		1.2	Explain how regulatory requirements affect work activities			
2	Plan and carry out a	2.1	Use appropriate tools and techniques safely			
	range of ICT hardware and equipment work activities under direction	2.2	Follow relevant working procedures such as: <ul> <li>health and safety</li> <li>quality</li> <li>use of tools</li> <li>configuration</li> <li>testing; logistics</li> </ul>			

Lea	arning outcomes	Asse	ssment criteria	Evidence type	Portfolio reference	Date
			waste disposal			
			problem escalation			
			information recording			
			obtaining work permissions			
			security and confidentiality			
			customer acceptance			
			• commissioning			
			product registration			
		2.3	Obtain specified resources			
		2.4	Record relevant information			
		2.5	Communicate the progress and outcome of work to the appropriate people			
3	Minimise risks related to ICT hardware and equipment work activities	3.1	Assess and minimise risks related to work activities such as:  • loss or corruption of data			
			<ul><li>loss of service</li><li>damage to equipment</li></ul>			

Learner name:	Date
Learner signature:	Date
Assessor signature:	Date

Internal verifier signature:	Date:
(if sampled)	

#### Unit 307: Working with ICT Hardware and Equipment

Unit reference number: M/500/7383

Level: 3

Credit value: 12

Guided learning hours: 100

### **Unit summary**

Hardware and equipment in the context of ICT can include: cables, PC boards, racks, rack mounted equipment, poles, masts, aerials, large computer systems. Work can be carried out on, for example: a single monitor or keyboard by a technical courier, single or networked systems or a telephone exchange by a team of technicians/engineers.

#### Assessment methodology

Lea	arning outcomes	Asse	ssment criteria	Evidence type	Portfolio reference	Date
1	Know how to plan and carry out or direct a wide range of work activities	1.1 1.2 1.3	<ul> <li>Describe the working process such as:</li> <li>tools and techniques to be used</li> <li>procedures to be followed</li> <li>procedures for information recording</li> <li>customer requirements</li> <li>product specifications</li> <li>work planning</li> <li>resource allocation</li> <li>Describe the appropriate uses of tools and techniques</li> <li>Explain which regulatory requirements affect work activities and how they do so</li> </ul>			
2	Plan and carry out or direct a wide range of	2.1	Select, adapt and use relevant tools and techniques safely			
	work activities	2.2	Provide technical advice to support working procedures such as:  • health and safety			

Lea	arning outcomes	Asse	ssment criteria	Evidence type	Portfolio reference	Date
			• quality			
			• use of tools			
			• configuration			
			testing; logistics			
			waste disposal			
			problem escalation			
			information recording			
			obtaining work permissions			
			security and confidentiality			
			customer acceptance			
			• commissioning			
			product registration			
			• integration			
		2.3	Obtain and allocate required materials			
		2.4	Record relevant information			
		2.5	Communicate the progress and outcome of work to the appropriate people			
3	Minimise risks related to work activities	3.1	Provide support and advice in assessing and minimising risks related to work activities such as:			
			loss or corruption of data			
			loss of service			

Learning outcomes	Asses	ssment criteria	Evidence type	Portfolio reference	Date
		damage to equipment			
		effects on customer operations			

Learner name:

Learner signature:

Assessor signature:

Internal verifier signature:

(if sampled)

Date:

#### Unit 407: Working with ICT Hardware and Equipment

Unit reference number: T/500/7384

Level: 4

Credit value: 15

Guided learning hours: 90

#### **Unit summary**

This unit provides the skills and knowledge required to take a supervisory or leadership role in dealing with ICT hardware and equipment. This can include cabling, PC boards, racks, rack mounted equipment, poles, masts, aerials, large computer systems. Work can be carried out on, for example, by a single monitor or keyboard by a technical courier, single or networked systems or a telephone exchange by a team of technicians/engineers.

#### Assessment methodology

Lea	arning outcomes	Asse	ssment criteria	Evidence type	Portfolio reference	Date
1	Understand how to manage working	1.1	Explain how to align processes with organisational objectives and customer needs			
	hardware and equipment  1.3 Explain which regulatory rows working procedures and hardware and improve  2.1 Select, adapt and use relevant to the control of	Explain the appropriate uses of tools and techniques				
		1.3	Explain which regulatory requirements might affect working procedures and how to take them into account			
2	working practices	2.1	Select, adapt and use relevant tools and techniques safely			
	relating to ICT hardware and equipment	2.2	Create and implement working procedures relating to the use of ICT hardware and equipment			
		2.3	Obtain and allocate required materials			
		2.4	Record relevant information			
		2.5	Communicate the progress and outcome of work to the appropriate people			
		2.6	Develop documentation to support effective working practices			
		2.7	Develop tools to enable more efficient working practices			
		2.8	Contribute to the development of the organisation's work strategy			

Le			Evidence type	Portfolio reference	Date	
3	Be able to improve working practices to minimise risk to the organisation	3.1	Improve working practices in order to assess and minimise risks			

Learner name:

Learner signature:

Assessor signature:

Internal verifier signature:

(if sampled)

Date:

Date:

### Unit 314: Customer Apparatus and Line Installation

Unit reference number: R/650/6610

Level: 3

Credit value: 22

Guided learning hours: 66

#### **Unit summary**

This unit provides the underpinning knowledge and skills required for a Customer Service Engineer to complete the main technical tasks involved in delivering the last mile of the telecoms network to the customer premises.

#### Assessment methodology

Lea	arning outcomes	Assessment criteria		Evidence type	Portfolio reference	Date
1	Run cables into the end-	1.1	Cite the importance for superb customer service			
	user premises and fit main and extension	1.2	Recognise the key elements of the local access network			
	telephone sockets	1.3	Drill holes to ISIS standard			
	'	1.4	Install external and internal cabling in a customer's premises			
		1.5	Wire PST/NTE sockets			
		1.6	State the different standard line conditions found in the network			
		1.7	Use the HAWK tester to identify line conditions and faults			
2	Run dropwires in the BT overhead network	2.1	Identify and use the current tools and equipment required to provide, retension, recover and renew dropwire from customers premises to wooden and hollow poles			
		2.2	Provide, retension, renew and recover a single span of dropwire from a hollow pole to simulated customer premises, which includes a road crossing			
		2.3	Apply the quality standards relating to working with dropwires, customer lead-in, block terminals and			

Learning outcomes	Asses	ssment criteria	Evidence type	Portfolio reference	Date
		customer fixings when carrying out dropwire provision,			
		renewal and recovery			
	2.4	State the current types of customers dropwire fixing			
	2.5	Provide a customer dropwire fixing using an Eyebolt Expanding 1A			
	2.6	Provide a customer's lead-in, up to but not including the point of entry into the customer's premises			
	2.7	Use slide rule fixing height - 1A, 1B and 1C:  • provide, retension and recover a single span of dropwire from a wooden pole to a simulated customer premises			
	2.8	Identify the types of low voltage and high voltage overhead power lines shown in the BT health and safety handbook			
	2.9	State the restrictions of using dropwire near power lines			
	2.10	State the minimum separation distances between dropwires and power lines			
	2.11	State the correct equipment for measuring the height of power lines			
	2.12	<ul> <li>State where lightning protection is fitted:</li> <li>provide, renew and recover a single span of dropwire from a wooden pole to a simulated customer premises which includes a road crossing</li> </ul>			
	2.13	Provide and recover a single span of dropwire, from a simulated customers premises to wooden pole A; the			

Lea	arning outcomes	Asses	ssment criteria	Evidence type	Portfolio reference	Date
			dropwire span between pole A and the customer crosses over low voltage power			
		2.14	Carry out the correct wiring and terminating practices for cable dropwire at box connections 18A/19A, block terminals 76/86 Series, block terminal 71A, block terminals 41/41A, box connection 16A, block terminal 66B and NTE 5			
3	Cross connect circuits in primary and secondary	3.1	State the purpose of Primary and Secondary Cross Connection Points (PCPs and SCPs)			
	cross connection points	3.2	List the termination systems used in PCP's and SCP's			
		3.3	State the quality standards required when providing jumpers on the following termination systems:  • P100/PC100		reference	
			• SCC No 1			
			SCC No 2			
			BIX MCCS			
			• 3M MS2 MCCS			
			Krone MCCS			
			Quante MCCS			
		3.4	Cross connect circuits on and between Krone and Quante MCCS			
4		4.1	Select and carry a three section aluminium ladder			

Learning outcomes		Asse	ssment criteria	Evidence type	Portfolio reference	Date
	Work safely on wooden poles, steps and ladders	4.2	Undertake a pre-use check on a three section aluminium ladder			
		4.3	Safely load, secure and remove a ladder extension 4B or 5A from a BT vehicle using both the Ladder Removal Tool (LRT) and the manual method			
		4.4	Erect a three section aluminium ladder against a solid structure and secure them using a variety of ladder stability devices			
		4.5	Safely raise and use a drill at the working position on the ladder			
		4.6	Undertake a pre-use check on steps folding			
		4.7	Use steps folding safely			
		4.8	Erect, tie, climb, descend and then lower a three section aluminium ladder against a wooden pole			
	Carry out manual handling using the kinetic method	4.9	Check, inspect and fit a Safety Belt No11 ready for use			
		4.10	Correctly adjust a Safety Belt No11			
		4.11	Correctly carry out a general pole test on the pole to be climbed			
		4.12	Safely climb, belt onto and turn on a pole of at least 9m length			
5		5.1	<ul><li>Demonstrate understanding of the principles of:</li><li>base movement</li><li>legislation</li></ul>			
			<ul> <li>components of the spine</li> </ul>			

Learning outcomes		Asse	ssment criteria	Evidence type	Portfolio reference	Date
			causes of back pain			
			safer manual handling			
			method of holding			
			manual handling and risk assessments			
		5.2	Carry out practical demonstrations using techniques recommended by ROSPA			
		5.3	Carry out practical exercises to practise skills in a safe environment			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

# Unit 116: Remote Support for Products or Services

Unit reference number: R/500/7215

Level: 1

Credit value: 6

Guided learning hours: 45

#### **Unit summary**

To develop knowledge, understanding and skills to provide basic remote support for products and services in an IT context.

#### Assessment methodology

Lea	arning outcomes	Asse	ssment criteria	Evidence type	Portfolio reference	Date
of contrequence of the proof	Know the specified parts of customer care requirements and details of the supported products and services that apply to them	1.1	Describe specified details of products or services to be supported:  • how to identify the products or services  • basic features and uses of the products or services  • standard responses to frequently asked requests			
		1.2	Describe specified parts of organisational requirements for customer care:  • customer service procedures (e.g. how to log customer information, how to initiate service calls,			
			<ul> <li>how to complete a sale)</li> <li>authorisation procedures (e.g. how to confirm caller identity, how to validate requests)</li> <li>escalation, resolution and complaint handling</li> </ul>			
			<ul> <li>quality assurance procedures</li> <li>compliance with relevant legislation and regulations (e.g. data protection, financial services)</li> </ul>			

Lea	arning outcomes	Asse	ssment criteria	Evidence type	Portfolio reference	Date
			<ul> <li>maintenance and communication of organisational brand or image</li> <li>organisational aims and objectives</li> </ul>			
2	Provide routine support on specified products or services	2.1	Comply with organisational requirements  Confirm customer identity and validate requests using specified methods and sources (e.g. post code, contract list, username)			
		2.3	Escalate invalid requests			
		2.4	Communicate information on specified products or services to the customer in a positive and professional way, using techniques such as:  • identifying customers' needs			
			<ul> <li>accurately collecting and logging relevant information from the customer</li> </ul>			
			<ul> <li>providing product and service features to customers</li> </ul>			
			<ul> <li>ensuring customer understanding of the information provided</li> </ul>			
		2.5	Resolve and escalate requests			

Learner name:	Date:
Learner signature:	Date:

Assessor signature:	Date:
Internal verifier signature:	Date:
(if sampled)	

# Unit 216: Remote Support for Products or Services

Unit reference number: Y/500/7216

Level: 2

Credit value: 9

Guided learning hours: 60

#### **Unit summary**

To develop knowledge, understanding and skills to provide remote support on a specified range of products and services in an IT context.

#### Assessment methodology

Lea	Learning outcomes		ssment criteria	Evidence type	Portfolio reference	Date
1	Know relevant parts of customer care requirements and details of the supported products and services	1.1	Describe the specified products or services to be supported:  • benefits of the products and services  • frequently used product or service options  • standard features and common uses of the products or services			
		1.2	Describe relevant parts of organisational requirements for customer care, such as:			
			<ul> <li>customer service procedures (e.g. how to log customer information, how to initiate service calls, how to complete a sale)</li> </ul>		reference	
			<ul> <li>authorisation procedures (e.g. how to confirm caller identity, how to validate requests)</li> </ul>			
			escalation, resolution and complaint handling			
			quality assurance procedures			
			compliance with relevant legislation and regulations (e.g. data protection, financial services)			

Lea	arning outcomes	Asse	ssment criteria	Evidence type		
			<ul> <li>maintenance and communication of organisational brand or image</li> <li>organisational aims and objectives</li> </ul>			
2	Provide support on specified products or services	2.1 2.2 2.3	Comply with organisational requirements  Confirm customer identity, validate requests and inform customers when authorisation criteria are not met  Communicate information on specified products or			
			<ul> <li>services:         <ul> <li>identifying customer's needs</li> </ul> </li> <li>accurately collecting and logging relevant information from the customer</li> </ul>			
			<ul> <li>providing product and service features to customers</li> <li>ensuring customer understanding of the information provided</li> </ul>			
			<ul> <li>categorising requests and directing customers appropriately</li> <li>managing customer expectations (e.g. by confirming outcomes, timescales or costs)</li> </ul>			
		2.4	Make recommendations based on customer needs			
		2.5	Resolve and escalate requests and handle basic complaints:  • using probing questions			

Learning outcomes	outcomes Assessment criteria		Portfolio reference	Date
	<ul> <li>displaying patience and understanding with demanding or emotional customers</li> </ul>			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

# Unit 316: Remote Support for Products or Services

Unit reference number: D/500/7217

Level: 3

Credit value: 12

Guided learning hours: 100

#### **Unit summary**

To develop the knowledge, understanding and skills to support ICT products and services.

# Assessment methodology

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Understand the organisational requirements for customer care and the supported products and services	1.1	<ul> <li>Describe the products and services to be supported including:</li> <li>benefits of the products and services</li> <li>frequently used product or service options</li> <li>advanced features, benefits and options of products and services</li> <li>how to identify alternative products or services to meet customers' needs</li> <li>how the products or services interact with others commonly available</li> <li>where to obtain information on infrequently used product or service features or options</li> <li>the impact of introducing new products and services</li> </ul>			
		1.2	Describe the organisational requirements for customer care including:			

Learning outcomes As		Asse	ssment criteria	Evidence type	Portfolio reference	Date
			<ul> <li>customer service procedures (e.g. how to log customer information, how to initiate service calls, how to complete a sale)</li> </ul>			
			<ul> <li>authorisation procedures (e.g. how to confirm caller identity, how to validate requests)</li> </ul>			
			escalation, resolution and complaint handling			
			quality assurance procedures			
			<ul> <li>compliance with relevant legislation and regulations (e.g. data protection, financial services)</li> </ul>			
			<ul> <li>maintenance and communication of organisational brand or image</li> </ul>			
			<ul> <li>organisational aims and objectives</li> </ul>			
2	Support products or	2.1	Comply with organisational requirements			
	customers when authorisation criteria are  2.3 Communicate information on specified proservices:	2.2	Confirm customer identity, validate requests and inform customers when authorisation criteria are not met			
		Communicate information on specified products or services:  • identifying customer's needs				
			<ul> <li>accurately collecting and logging relevant information from the customer</li> </ul>			
			<ul> <li>providing product and service features to customers</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<ul> <li>ensuring customer understanding of the information provided</li> </ul>			
	<ul> <li>categorising requests and directing customers appropriately</li> </ul>			
	<ul> <li>managing customer expectations (e.g. by confirming outcomes, timescales or costs)</li> </ul>			
	<ul> <li>discussing advantages and disadvantages of complex products and services</li> </ul>			
	<ul> <li>discussing how the service product best fits the customer's needs</li> </ul>			
	<ul><li>keeping customer informed on progress</li><li>asking effective and appropriate probing questions</li></ul>			
	2.4 Make recommendations based on customer needs			
	2.5 Resolve and escalate requests and handle basic complaints:			
	<ul> <li>using probing questions</li> </ul>			
	<ul> <li>displaying patience and understanding with demanding or emotional customers</li> </ul>			
	<ul> <li>diffusing volatile situations using appropriate communication techniques</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<ul> <li>delivering difficult messages to customers and explaining the reasons behind the decision</li> </ul>			
	<ul><li>assessing priority of complaints</li><li>resolving routine complaints</li></ul>			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

# Unit 416: Remote Support for ICT Products or Services

Unit reference number: A/602/1264

Level: 4

Credit value: 15

Guided learning hours: 90

#### **Unit summary**

To develop the knowledge, understanding and skills to maintain and implement customer remote support requirements in an IT context.

#### Assessment methodology

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Understand the role of remote support in the organisation	1.1	Describe current and anticipated ICT products or services to be supported			
		1.2	Describe organisational requirements for remote customer support for ICT products and services			
2	Maintain and implement customer support requirements	2.1	Review and update organisational requirements for customer support			
		2.2	Handle complaints from high risk or high profile customer issues			
		2.3	Provide suggestions to prevent future reoccurrence of complaints			
		2.4	Ensure compliance with organisational requirement			
		2.5	Initiate suitable actions to deal with deficiencies in customer support provision			
		2.6	Schedule audits of working practices and work monitoring			
		2.7	Suggest improvements to the quality and efficiency of remote support operations			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

# Unit 117: Security of ICT Systems

Unit reference number: K/500/7219

Level: 1

Credit value: 3

Guided learning hours: 20

#### **Unit summary**

To develop knowledge, understanding and skills to use specified tools and procedures to protect an IT system and its data.

### Assessment methodology

Learning outcomes		Asse	ssment criteria	Evidence type	Portfolio reference	Date
1	Know the particular threats to an IT system and its data with specified methods and procedures for protecting it	1.1	<ul> <li>Describe specified data protection methods, such as:</li> <li>malware detection software (anti-virus, anti spyware etc)</li> <li>internet security suites (firewall, malware detection, anti-phishing and spam filters)</li> <li>use and protection of passwords or access codes</li> <li>backup and storage</li> </ul>			
		1.3	<ul> <li>Describe specified methods of providing physical security for ICT systems:         <ul> <li>access control devices (e.g. locks, biometric controls, CCTV)</li> </ul> </li> <li>limiting visibility of data (e.g. by positioning of monitors, using encryption)</li> <li>shielding (e.g. cable screening, Faraday cages)</li> </ul> <li>Describe the type of security breaches that can occur in</li>			
	1.	1.4	Describe the type of security breaches that can occur in IT systems, such as:			

Lea	Learning outcomes		ssment criteria	Evidence type	Portfolio reference	Date
			<ul> <li>unauthorised use of a system without damage to data</li> </ul>			
			<ul> <li>unauthorised removal or copying of data or code from a system</li> </ul>			
			<ul> <li>damage to or destruction of physical system assets and environment</li> </ul>			
			<ul> <li>damage to or destruction of data or code inside or outside the system</li> </ul>			
			<ul> <li>preventing normal use of a system (e.g. denial of service attack)</li> </ul>			
2	Comply with relevant security requirements to	2.1	Use specified security tools to identify and prevent breaches of security:			
	protect an IT system and its data		<ul> <li>internal system tools (e.g. passwords, anti-virus software, firewalls and encryption facilities)</li> </ul>			
			<ul> <li>external tools (e.g. access control devices)</li> </ul>			
		2.2	Comply with organisational security procedures			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

# Unit 317: Security of ICT Systems

Unit reference number: D/500/7220

Level: 3

Credit value: 12

Guided learning hours: 100

### **Unit summary**

To develop knowledge, understanding and skills to ensure the security of an IT system and its data using security tools and assisting in the security auditing process.

### Assessment methodology

Le	Learning outcomes		ssment criteria	Evidence type	Portfolio reference	Date
1	Know the common types of security threat to an organisation, its IT system and its data, with relevant methods and procedures for protecting it	1.1	<ul> <li>Describe the common types of security breach that can affect the organisation, such as:</li> <li>unauthorised use of a system without damage to data</li> <li>unauthorised removal or copying of data or code from a system</li> <li>damage to or destruction of physical system assets and environment</li> <li>damage to or destruction of data or code inside or outside the system</li> <li>preventing normal use of a system (e.g. denial of service attack)</li> </ul>			
		1.2	<ul> <li>Describe specified data protection methods:</li> <li>system data security facilities</li> <li>surveillance and monitoring methods</li> <li>effects of system configuration on data protection</li> </ul>			

Lea	Learning outcomes		ssment criteria	Evidence type	Portfolio reference	Date
		1.3	Describe specified methods of providing physical security for ICT systems:			
			<ul> <li>access control devices (e.g. locks, biometric controls, CCTV) and their configuration</li> </ul>			
			<ul> <li>limiting visibility of data (e.g. by positioning of monitors, using encryption)</li> </ul>			
			• shielding (e.g. cable screening, Faraday cages)			
			<ul> <li>types and appropriate uses of access records and authorisations</li> </ul>			
			how to allocate access authority			
		1.4	Describe relevant organisational security procedures			
2	Apply security measures	2.1	Configure and apply specified security tools to identify and prevent breaches of security, such as:			
			<ul> <li>internal system tools (e.g. passwords and permissions, malware scanning, firewall, VPN, authentication and encryption facilities)</li> </ul>			
			external tools (e.g. access control devices)			
3	Monitor security procedures	3.1	Assist in ensuring compliance with organisational security procedures, including:			
			participating in security audits			
			<ul> <li>gathering and recording information on security</li> </ul>			

Lea	arning outcomes	Asses	ssment criteria	Evidence type	Portfolio reference	Date
			<ul> <li>initiating suitable actions to deal with identified breaches of security</li> </ul>			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

## Unit 417: Security of ICT Systems

Unit reference number: H/500/7221

Level: 4

Credit value: 15

Guided learning hours: 90

#### **Unit summary**

To develop the knowledge, understanding and skills needed to implement and maintain IT security systems.

### Assessment methodology

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Understand the security threats to an IT system,	1.1	Describe the data protection methods that are relevant to the organisation			
	their operational impact and the methods	1.2	Describe physical security methods in use			
	available to combat	1.3	Describe organisational security procedures			
	:hem	1.4	Describe types of possible security breaches and their operational impacts			
2	Maintain and improve ICT security procedures	2.1	Review and update security procedures			
		2.2	Ensure compliance with security procedures by scheduling security audits			
		2.3	Initiate suitable actions to deal with identified breaches of security			
		2.4	Inform colleagues of their security responsibilities and confirm their understanding at suitable intervals			
3	Implement security	3.1	Schedule and carry out security risk assessments			
	procedures	3.2	Select appropriate security tools for the organisation or department to use			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

## Unit 118: Software Installation and Upgrade

Unit reference number: D/500/7265

Level: 1

Credit value: 6

Guided learning hours: 50

#### **Unit summary**

This is the ability to install or upgrade software on any ICT system following agreed processes. It includes:

- preparation and planning
- installation or upgrade and
- configuration and handover to the customer.

The software installation/upgrade target can be any system capable of running software which can be interactively installed or upgraded. Examples include base stations, switches and hubs, control systems and mobile, desktop and server computers.

A competent person at level 1 can carry out installations or upgrades under detailed instruction.

### Assessment methodology

Learning outcomes		Asse	Assessment criteria		Portfolio reference	Date
1	Understand specified parts of the installation/upgrade process	1.1	Describe specified installation/upgrade procedures to include:  • installation  • configuration  • testing  • delivery, shipping and storage  • escalation			
2	Install and upgrade	2.1	Follow specified installation/upgrade procedures			
	software	2.2	Use specified software loading facilities			
		2.3	Record information relating to the:			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

## Unit 218: Software Installation and Upgrade

Unit reference number: D/500/7329

Level: 2

Credit value: 9

Guided learning hours: 80

#### **Unit summary**

This is the ability to install or upgrade software on any ICT system following agreed processes. It includes:

- preparation and planning
- installation or upgrade and
- configuration and handover to the customer.

The software installation/upgrade target can be any system capable of running software which can be interactively installed or upgraded. Examples include base stations, switches and hubs, control systems and mobile, desktop and server computers.

A competent person at level 2 can carry out a range of installations or upgrades under instruction.

### Assessment methodology

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Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Understand relevant parts of the installation/upgrade process	1.1	Describe the relevant parts of the software installation and upgrade process including:  • procedures to be followed  • procedures for information recording  • software storage locations to be used  • specifications of the software			
		1.2	Describe relevant software loading facilities			
2	Install/upgrade software	2.1	Follow relevant installation/upgrade procedures			
		2.2	Use appropriate software loading facilities			
		2.3	Record relevant information			
		2.4	Communicate the progress and outcome of the installation/upgrade to the appropriate people			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:

Internal verifier signature:	Date:
(if sampled)	

## Unit 318: Software Installation and Upgrade

Unit reference number: R/500/7330

Level: 3

Credit value: 12

Guided learning hours: 100

#### **Unit summary**

This is the ability to install or upgrade software on any ICT system following agreed processes. It includes:

- preparation and planning
- installation or upgrade and
- configuration and handover to the customer.

The software installation/upgrade target can be any system capable of running software which can be interactively installed or upgraded. Examples include base stations, switches and hubs, control systems and mobile, desktop and server computers

A competent person at level 3 can plan and carry out or control a wide range of installations or upgrades.

### Assessment methodology

Learning outcomes		utcomes Assessment criteria		Evidence type	Portfolio reference	Date
1	Understand the installation/upgrade process	1.1	Describe the software installation and upgrade process including:  • procedures to be followed  • procedures for information recording  • software storage locations to be used  • specifications of the software  Describe the capabilities of software loading facilities			
2	wide range of installations or upgrades 2	2.1	Provide guidance on installation/upgrade procedures to immediate colleagues  Obtain and allocate required materials			
		2.3	Select the installation/upgrade procedures to be followed  Select software loading facilities to be used			

Learner name:	Date:
Learner signature:	Date:

Assessor signature:	Date:
Internal verifier signature:	Date:
(if sampled)	

### Unit 219: System Management

Unit reference number: Y/500/7331

Level: 2

Credit value: 6

Guided learning hours: 55

#### **Unit summary**

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.

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.

A competent person at Level 2 can assist in administering a system.

## Assessment methodology

Lea	Learning outcomes		rning outcomes Assessment criteria		Evidence type	Portfolio reference	Date
1	Know how to assist in administering a system	1.1	Describe how to use specified system configuration facilities				
	1	1.2	Explain what ICT asset and configuration information is to be recorded such as:				
			<ul> <li>physical attributes (e.g. manufacturer, type, revision, serial number, location, value).</li> </ul>				
			<ul> <li>configuration (e.g. physical and logical addresses, options set, connections)</li> </ul>				
2	Change system	2.1	Make specified changes to system configuration				
	configurations 2	2.2	Gather and record ICT asset and configuration information for specified items				

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature:	Date:

### Unit 319: System Management

Unit reference number: D/500/7332

Level: 3

Credit value: 12

Guided learning hours: 100

#### **Unit summary**

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.

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

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

A competent person at level 3 can administer a system.

## Assessment methodology

Lea	Learning outcomes		utcomes Assessment criteria		Portfolio reference	Date
1	Understand how to	1.1	Describe how to configure the system			
		1.2	Describe ICT asset and configuration information applicable to the system such as:			
			<ul> <li>Physical attributes (e.g. manufacturer, type, revision, serial number, location, value)</li> </ul>			
			<ul> <li>Configuration (e.g. physical and logical addresses, options set, connections)</li> </ul>			
		1.3	Describe how available options for system configuration affect functionality and capacity			
2		2.1	Select configuration options to optimise system functionality and capacity			
		2.2	Make changes to system configuration			
		2.3	Specify items for which ICT asset and configuration information is to be recorded			

Learner name:	Date
Learner signature:	Date

Assessor signature:	Date:
Internal verifier signature:	Date:
(if sampled)	

## Unit 120: System Operation

Unit reference number: H/500/7333

Level: 1

Credit value: 6

Guided learning hours: 50

#### **Unit summary**

This is the ability to operate and monitor a system which can be any combination of equipment, hardware and software.

This may include:

- using data backup and restore routines
- handling of incidents
- controlling and monitoring availability and performance of system components
- start-up/close-down routines
- scheduling routine or preventative maintenance
- maintenance of operating plans and schedules.

Examples of 'operational activities' are:

- replenishment of consumables
- routine or preventative maintenance
- data backups.

A competent person at level 1 can operate a system under direct instruction.

## Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

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Lea	Learning outcomes		ssment criteria	Evidence type	Portfolio reference	Date
1	Know the functionality of specified parts of the system	1.1	Describe the functionality of specified parts of the system, such as:  • required service levels (e.g. availability, quality)  • routine maintenance  • monitoring  • data integrity (e.g. backups, anti-virus)  • consumables use, storage and disposal  • health and safety  • escalation  • information recording and reporting  • obtaining work permissions  • security and confidentiality			
2	Operate specified parts of the system	2.1	Describe how to operate specified parts of the system, such as:  • operating parts of the system following specified procedures			

Learning outcomes Asset		ssment criteria	Evidence type	Portfolio reference	Date
		identifying and reporting system faults			
		<ul> <li>recording specified operational information</li> </ul>			
		how to recognise system faults			
	2.2	2.2 Assess and minimise risks related to your own actions such as:			
		loss or corruption of data			
		loss of service			
		damage to equipment			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature:  (if sampled)	Date:

## Unit 220: ICT System Operation

Unit reference number: F/500/7338

Level: 2

Credit value: 9

Guided learning hours: 45

#### **Unit summary**

This is the ability to operate and monitor a system which can be any combination of equipment, hardware and software.

This may include:

- using data backup and restore routines
- handling of incidents
- controlling and monitoring availability and performance of system components
- start-up/close-down routines
- scheduling routine or preventative maintenance
- maintenance of operating plans and schedules.

Examples of 'operational activities' are:

- replenishment of consumables
- routine or preventative maintenance
- data backups.

A competent person at level 2 can operate a system under instruction.

## Assessment methodology

Learning outcomes		Asse	Assessment criteria		Portfolio reference	Date
1	Know the relevant parts of the operating system	1.1	<ul> <li>Describe the relevant parts of operating procedures:</li> <li>required service levels (e.g. availability, quality)</li> <li>routine maintenance</li> <li>monitoring</li> <li>data integrity (e.g. backups, anti-virus)</li> <li>consumables use, storage and disposal</li> <li>health and safety</li> <li>escalation</li> <li>information recording and reporting</li> <li>obtaining work permissions</li> <li>security and confidentiality</li> <li>Describe the functionality of relevant parts of the system</li> </ul>			
2	Operate specified parts of the system	2.1	Operate specified parts of the system:  • operating specified system parts following procedures			

Learning outcomes	Asse	ssment criteria	Evidence type	Portfolio reference	Date
		<ul> <li>recognising, resolving or escalating system faults</li> </ul>			
		<ul> <li>gathering and recording specified operational information</li> </ul>			
	2.2	Assess and minimize risks related to your own actions such as:			
		loss or corruption of data			
		<ul> <li>loss of service</li> </ul>			
		damage to equipment			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

## Unit 320: System Operation

Unit reference number: A/500/7340

Level: 3

Credit value: 12

Guided learning hours: 100

#### **Unit summary**

This is the ability to operate and monitor a system which can be any combination of equipment, hardware and software.

This may include:

- using data backup and restore routines
- handling of incidents
- controlling and monitoring availability and performance of system components
- start-up/close-down routines
- scheduling routine or preventative maintenance
- maintenance of operating plans and schedules.

Examples of 'operational activities' are:

- replenishment of consumables
- routine or preventative maintenance
- data backups.

A competent person at level 3 can maintain and implement system operating procedures.

## Assessment methodology

Learning outcomes		Asse	Assessment criteria		Portfolio reference	Date
	Know how to operate the system	1.1	Explain the operating procedures that are applicable to the system, such as:  • required service levels (e.g. availability, quality)  • routine maintenance  • monitoring  • data integrity (e.g. backups, anti-virus)  • consumables use, storage and disposal  • Health and Safety  • escalation  • information recording and reporting  • obtaining work permissions  • security and confidentiality  Describe system functionality during normal operation			
		1.3	Describe the effects of operational activities on system functionality			

Lea	arning outcomes	Asse	Assessment criteria		Portfolio reference	Date
2	Operate systems	2.1	Use and operate the system following appropriate procedures			
		2.2	Identify system faults and resolve or escalate system faults as appropriate			
		2.3	Gather and record specified operational information			
		2.4	Assess and minimise risks such as: <ul> <li>loss or corruption of data</li> <li>loss of service</li> <li>damage to equipment</li> <li>effects on customer operations</li> </ul>			
3	Maintain and implement system operating	3.1	Provide advice and guidance on system operation to immediate colleagues			
	procedures 3.2 3.3	3.2	Select the procedures to be followed			
		3.3	Schedule operational activities to minimise disruption to system functionality			
		3.4	Collate operational information			

Learner name:	Date:
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#### Unit 221: Technical Advice and Guidance

Unit reference number: F/601/3506

Level: 2

Credit value: 9

Guided learning hours: 50

### **Unit summary**

This unit covers basic knowledge of how to provide technical advice and guidance and practical application of this knowledge in providing reactive advice and guidance.

### Assessment methodology

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Know how to provide	1.1	Identify how technical advice and guidance can be used			
	guidance 1.3	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 in response to customer requests (e.g. to rectify known faults, to provide new functionality)			
2		Identify the purposes for which technical advice and guidance is required				
	guidance to customers on a range of topics	Z.Z				
	2.3	2.3	Communicate effectively with customers to obtain specified information to enable correct technical advice and guidance to be provided			
		2.4	Interpret given technical information to produce advice and guidance in response to customer requests			

Learning outcomes		Asse	Assessment criteria		Portfolio reference	Date
		2.5	Communicate technical advice and guidance to customers in a given format and style, 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			

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#### Unit 321: Technical Advice and Guidance

Unit reference number: J/601/3507

Level: 3

Credit value: 12

Guided learning hours: 75

#### **Unit summary**

This unit provides an understanding of the context for providing technical advice and guidance. It also covers practical provision of both reactive and proactive advice and guidance.

#### Assessment methodology

Lea	arning outcomes	Assessment criteria		Evidence type	Portfolio reference	Date
1	Understand the context for providing technical advice and guidance	1.1	Describe how technical advice and guidance can be used to:  • resolve problems  • improve performance			
		1.2	Describe the types, sources and applicability of information which can form the basis of technical advice and guidance:  • information from reference sources (e.g. manuals, handbooks, manufacturer's specifications)  • information derived from the analysis of data (e.g. trend analysis, fault logs)  • online information (e.g. manufacturer's websites, technical fora, discussion groups)			
		1.3	Describe the procedures and constraints which can apply to the provision of technical advice and guidance (e.g. escalation, commercial/contractual, legal/regulatory, information security)			
		1.4	Identify circumstances where technical advice and guidance should be provided proactively rather than			

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
			reactively in response to customer requests (e.g. to rectify known faults, to provide new functionality)			
2	Provide reactive technical advice and	2.1	Determine the purposes for which technical advice and guidance is required			
	guidance to customers on a range of topics	2.2	Verify that customers are entitled to receive the requested technical advice and guidance			
	2	2.3	Communicate effectively with customers to elicit sufficient information to enable correct technical advice and guidance to be provided			
		2.4	Source and interpret relevant technical information to produce advice and guidance in response to customer requests			
		2.5	Communicate technical advice and guidance to customers in a format and style which meets their needs, 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			
3	Provide proactive technical advice and	3.1	Identify the purposes for which the technical advice and guidance is required			
	guidance to customers	3.2	Identify the customers, and their level of technical knowledge, to whom the technical advice and guidance should be provided			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		3.3	Develop technical advice and guidance in a format and style which takes into account the customers' level of technical knowledge			
		3.4	Follow organisational procedures for providing proactive technical advice and guidance			

Learner name:	Date:
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Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

#### Unit 421: Technical Advice and Guidance

Unit reference number: Y/500/7345

Level: 4

Credit value: 15

Guided learning hours: 90

#### **Unit summary**

To develop the knowledge, understanding and skills to provide operational and strategic advice and guidance on a wide range of IT issues.

#### Assessment methodology

Lea	arning outcomes	Assessment criteria		Evidence type	Portfolio reference	Date
1	Control the provision of technical advice and guidance	1.1	Ensure that organisational procedures for providing technical advice and guidance are followed:  • resolve problems  • improve performance			
		1.2	Describe the types, sources and applicability of information which can form the basis of technical advice and guidance:  • information from reference sources (e.g. manuals, handbooks, manufacturer's specifications)  • information derived from the analysis of data (e.g. trend analysis, fault logs)  • online information (e.g. manufacturer's websites,			
		1.3	technical fora, discussion groups)  Describe the procedures and constraints which can apply to the provision of technical advice and guidance (e.g. escalation, commercial/contractual, legal/regulatory, information security)  Identify circumstances where technical advice and guidance should be provided proactively rather than			

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
			reactively in response to customer requests (e.g. to rectify known faults, to provide new functionality)			
2	Provide reactive technical advice and	2.1	Determine the purposes for which technical advice and guidance is required			
	guidance to customers on a range of topics	2.2	Verify that customers are entitled to receive the requested technical advice and guidance			
	2	2.3	Communicate effectively with customers to elicit sufficient information to enable correct technical advice and guidance to be provided			
		2.4	Source and interpret relevant technical information to produce advice and guidance in response to customer requests			
		2.5	Communicate technical advice and guidance to customers in a format and style which meets their needs, 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			
3	Provide proactive technical advice and	3.1	Identify the purposes for which the technical advice and guidance is required			
	guidance to customers	3.2	Identify the customers, and their level of technical knowledge, to whom the technical advice and guidance should be provided			

Learning outcomes Ass		Asse	ssment criteria	Evidence type	Portfolio reference	Date
		3.3	Develop technical advice and guidance in a format and style which takes into account the customers' level of technical knowledge			
		3.4	Follow organisational procedures for providing proactive technical advice and guidance			

Learner name:	Date:
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Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

## Unit 122: Testing ICT Systems

Unit reference number: T/500/7353

Level: 1

Credit value: 6

Guided learning hours: 50

#### **Unit summary**

To develop knowledge, understanding and skills to assist in the testing of ICT systems.

### Assessment methodology

Lea	arning outcomes	Asse	ssment criteria	Evidence type	Portfolio reference	Date
1	1 Know basic technical information about a system to be tested, testing procedures and associated activities, equipment to be used and the reasons for the test  1.1  1.1  1.1  1.1  1.1  1.1  1.1  1	<ul> <li>Describe relevant parts of the testing process:</li> <li>testing tools to be used</li> <li>work procedures to be followed (including obtaining authorisations)</li> <li>procedures for recording information</li> </ul>				
		1.2	<ul><li>Describe the purposes of testing</li><li>checking functionality</li><li>obtaining performance information</li></ul>			
		1.3	<ul> <li>Describe specified test preparation and conclusion activities, including:</li> <li>health and safety requirements (before and after)</li> <li>need to obtain work permissions</li> <li>site access and security</li> <li>environmental legislation and regulations (e.g. disposal of materials)</li> <li>work sign-off and reporting</li> <li>site restoration</li> </ul>			

Le	Learning outcomes		Assessment criteria		Portfolio reference	Date
		1.4	Interpret specified technical information about the test and equipment to be tested			
2	Assist testing under direction and record accurately test results	2.1	<ul> <li>Carry out specified preparation and conclusion activities, e.g.:</li> <li>health and safety requirements (before and after)</li> <li>need to obtain work permissions</li> <li>site access and security</li> <li>environmental legislation and regulations (e.g. disposal of materials)</li> <li>work sign-off and reporting</li> <li>site restoration</li> </ul>			
		2.2	<ul> <li>Use specified testing tools, e.g.:</li> <li>electrical/electronic test instruments</li> <li>on-board self-test programs</li> <li>diagnostic software</li> <li>Record specified test information and test results</li> </ul>			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:

Internal verifier signature:	Date:
(if sampled)	

#### Unit 222: **Testing ICT Systems**

Unit reference number: A/500/7354

Level: 2

**Credit value:** 9

**Guided learning hours:** 80

#### **Unit summary**

To develop knowledge, understanding and skills to carry out routine testing of ICT systems and to assist in other testing.

#### Assessment methodology

This unit is assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

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Le	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Know technical information about a range of products, testing procedures and associated activities, equipment to be used and the reasons for the test	1.1	<ul> <li>Describe the testing process to be followed:         <ul> <li>how to select tests and collect relevant and sufficient information for the test to be successful</li> </ul> </li> <li>how to minimise service disruption during testing and avoid detrimental effects or changes to performance</li> <li>ways to configure tests</li> <li>how to record, maintain or restore configurations, data and functionality</li> <li>types of service level agreements</li> <li>individual responsibility and authority</li> <li>escalation procedures and risks associated with using a testing process</li> </ul>			
		1.2	<ul><li>Describe the purposes of testing, e.g.:</li><li>aiding the diagnostic process</li><li>comparing actual and expected performance</li></ul>			

Learning outcomes		ssment criteria	Evidence type	Portfolio reference	Date
	1.3	Describe relevant test preparation and conclusion activities, such as:  • health and safety legislation and regulations  • need to obtain work permissions  • site access and security  • system or equipment integrity (e.g. ensuring network service continuity)  • data integrity (e.g. taking data backups before commencing work)  • resource availability  • level of service allowed by the SLA  • environmental legislation and regulations (e.g. disposal of materials)  • work sign-off and reporting  • site restoration  • system and equipment integrity (e.g. restoring			
	1.4	<ul> <li>service)</li> <li>data integrity (e.g. restoring data backups as necessary)</li> <li>Interpret technical information on a specified range of products</li> </ul>			

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
2	Carry out routine testing and assist in other	2.1	Ensure relevant preparation and conclusion activities have been carried out (see list above)			
	testing	2.2	Use appropriate testing tools, such as:			
			electrical/electronic test instruments			
			on-board self-test programs			
			loopback devices			
			on-line/remote monitoring software			
			software debuggers			
			runtime analysers			
			diagnostic software			
		2.3	Gather and record relevant test information and test results, including:			
			identifying the relevant information			
			<ul> <li>using approved sources of information</li> </ul>			
			validating information			
		2.4	Respond to test information and results:			
			<ul> <li>interpreting error codes/messages</li> </ul>			
			<ul> <li>comparing with specifications</li> </ul>			
			identifying inconsistent data			

Learner name: Date:

Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature:	Date:
(if sampled)	

## Unit 322: Testing ICT Systems

Unit reference number: F/500/7355

Level: 3

Credit value: 12

Guided learning hours: 100

#### **Unit summary**

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

#### Assessment methodology

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Know technical information about a wide range of products, testing procedures and associated activities, equipment to be used and the reasons for the test	1.1	<ul> <li>Describe the testing process to be followed:</li> <li>how to select tests and collect relevant and sufficient information for the test to be successful</li> <li>how to minimise service disruption during testing and avoid detrimental effects or changes to performance</li> <li>ways to configure tests</li> <li>how to record, maintain or restore configurations, data and functionality</li> <li>types of service level agreements</li> <li>individual responsibility and authority</li> <li>escalation procedures and risks associated with using a testing process</li> <li>information analysis (level 3)</li> </ul>			
		1.2	Describe the purposes of testing:  • aiding the diagnostic process			

Learning outcomes Assess		ssment criteria	Evidence type	Portfolio reference	Date
		<ul><li>comparing actual and expected performance</li><li>testing performance</li></ul>			
	1.3	Describe what test preparation and conclusion activities are necessary for specific tests, such as:			
		<ul><li>health and safety legislation and regulations</li><li>need to obtain work permissions</li></ul>			
		site access and security			
		<ul> <li>system or equipment integrity (e.g. ensuring network service continuity)</li> </ul>			
		<ul> <li>data integrity (e.g. taking data backups before commencing work)</li> </ul>			
		resource availability			
		<ul> <li>level of service allowed by the SLA</li> </ul>			
		<ul> <li>environmental legislation and regulations (e.g. disposal of materials)</li> </ul>			
		work sign-off and reporting			
		site restoration			
		<ul> <li>system and equipment integrity (e.g. restoring service)</li> </ul>			
		<ul> <li>data integrity (e.g. restoring data backups as necessary)</li> </ul>			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		1.4	Interpret detailed technical information on a specified range of products			
2	Carry out testing and	2.1	Provide technical advice to support testing			
	support others in the testing process	2.2	Select any necessary preparation and conclusion activities and ensure that they have been completed			
	2	2.3	Select, adapt and use appropriate testing tools:      electrical/electronic test instruments      on-board self-test programs      loopback devices      on-line/remote monitoring software      software debuggers      runtime analysers			
		2.4	<ul> <li>diagnostic software</li> <li>Gather, record and respond to test information and</li> </ul>			
			results by:			
			<ul> <li>interpreting error codes/messages</li> </ul>			
			<ul> <li>comparing with specifications</li> </ul>			
			identifying inconsistent data			
			<ul> <li>examining results from multiple tests or trend analysis</li> </ul>			
			<ul> <li>using analytical tools to extract information from test data</li> </ul>			

Learner name:	Date:
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Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

#### Unit 223: User Profile Administration

Unit reference number: H/500/7378

Level: 2

Credit value: 6

Guided learning hours: 55

#### **Unit summary**

This is the ability to specify and configure user profiles.

### Assessment methodology

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Know how to assist in the administration of user profiles	1.1	<ul> <li>Describe how to make changes to user profiles, such as:         <ul> <li>user identifier (e.g. username)</li> </ul> </li> <li>password and related information (e.g. change frequency)</li> <li>allowed system access (e.g. times, locations)</li> <li>allowed access to facilities (e.g. data, software)</li> </ul>			
2	Assist in the administration of user profiles	2.1	Make specified changes to user profiles			

Learner name:	Date:
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Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

#### Unit 323: User Profile Administration

Unit reference number: K/500/7379

Level: 3

Credit value: 9

Guided learning hours: 80

#### **Unit summary**

This is the ability to specify and configure user profiles.

### Assessment methodology

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Know how to administer user profiles	1.2	<ul> <li>Describe the organisational policy on user profiles such as: <ul> <li>user identifier (e.g. username)</li> <li>password and related information (e.g. change frequency)</li> <li>allowed system access (e.g. times, locations)</li> <li>allowed access to facilities (e.g. data, software)</li> </ul> </li> <li>Describe how to create and edit user and standard profiles <ul> <li>Describe how user profiles affect access to system facilities, such as:</li> <li>shared resources (e.g. data storage, printers)</li> <li>software</li> <li>data</li> </ul> </li> </ul>			
2	Administer user profiles	2.1	Make specified changes to user profiles  Specify user profiles to meet individual requirements			
		2.2	Create standard profiles for groups of users			

Learning outcomes		Asse	ssessment criteria		Portfolio reference	Date
		2.4	Provide guidance on user profiles to immediate colleagues			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

# Unit 324: Using and Managing Bowman Systems for Advanced Signallers

Unit reference number: K/501/3912

Level: 3

Credit value: 19

Guided learning hours: 150

#### **Unit summary**

This unit defines the use and management of BOWMAN radio systems and is specific to the armed forces.

#### Assessment methodology

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to command a 1.1	1.1	Extract information from a briefing/orders group			
	radio detachment	1.2	Explain how to brief a signals detachment			
		1.3	Conduct a line reconnaissance			
		1.4	Explain how to brief a line party			
		1.5	Control the laying, testing and recovery of line			
		1.6	Explain how to brief a detachment on health and safety risks			
		1.7	Control the initialisation of communication equipment			
		1.8	Extract and interpret signals information from policies and procedures			
		1.9	Demonstrate how to control the handover or takeover of a communications detachment			
		1.10	Describe how to control cryptographic equipment and material			
		1.11	Identify health and safety risks			
2		2.1	Demonstrate how to maintain a sub-unit account of radios and associated equipment			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
	Manage BOWMAN and	2.2	Carry out functional tests on radio equipment			
	non BOWMAN equipment	2.3	Demonstrate how to perform basic maintenance of communications equipment			
		2.4	Demonstrate how to perform tests and verification on suspect equipment			
		2.5	Locate faults to LRU level			
3	Be able to supervise	3.1	Establish DC (Direct Current) battery charging areas			
	battery charging	3.2	Demonstrate how to maintain battery charging equipment			
4	Construct an antenna for advanced communications	4.1	State the principles applicable to electromagnetic theory and propagation of radio waves			
		4.2	Calculate, select and assemble a suitable antenna for high frequency (HF) communications			
5	communication security and electronic warfare matters	5.1	Demonstrate how to monitor insecure systems			
		5.2	Demonstrate how to debrief a detachment on security breaches			
		5.3	Advise commanders on communication security matters within the unit			
		5.4	Advise on electronic warfare			
		5.5	Describe ElectronicPM, Tactical and Technical			
		5.6	State electronic warfare procedures			
6		6.1	Operate communication systems to a number of outstations			

Learning outcomes		Asse	ssment criteria	Evidence type	Portfolio reference	Date
	Establish communication using re-broadcast facilities	6.2	Operate as a local re-broadcast using any two communication systems to a number of outstations			
7	Operate the	7.1	Prepare the CIH application for operation			
	Communication Information Handler	7.2	Operate CIH application			
	(CIH) application	7.3	Perform user maintenance on the CIH			
8	Operate the Key Encryption Key (KEK) fill Device	8.1	Prepare the Key Encryption Key (KEK) fill device for operation			
		8.2	Operate the Key Encryption Key (KEK) fill device			
		8.3	Perform user maintenance on KFD			
9	Operate Common Battlefield Application Toolset (ComBAT)	9.1	Explain how to create symbols			
		9.2	Explain how to create overlays			
		9.3	Describe how to view and/or amend location status board			
		9.4	Describe how to view track history playback			
		9.5	Configure CPR			
		9.6	Produce plans and orders using ComBAT			
		9.7	Demonstrate how to manage messages and data			
		9.8	Demonstrate how to load ComBAT mapping			
10		10.1	Demonstrate how to prepare the simple harness			

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
	Operate the Local Area Sub-system (LAS)	10.2	Demonstrate how to prepare the basic functional LAS and remote connections			
	, , ,	10.3	Demonstrate how to prepare the full functional LAS and remote connection			
11	Be able to manage	11.1	Identify and plan unit or sub-unit signal training needs			
	unit/sub-unit signals	11.2	Select appropriate methods of instruction			
	training	11.3	Carry out a minimum of three teaching practices in accordance with Defence Instruction and Techniques process			
		11.4	Pass the Defence Instruction and Technique course			
12	BOWMAN Digitization functionality 1	12.1	Identify how voice and data technologies are utilised within the BOWMAN architecture			
		12.2	Identify the components and function of the BOWMAN Communication Management Systems (BCMS) applications			
		12.3	Identify the characteristics and capabilities of the GPS systems and components of Navigation Warfare (NAVWAR)			
		12.4	Identify the components of the Apache BOWMAN Connectivity (ABC)			

Learner name:	Date:
Learner signature:	Date:

Assessor signature:	Date:
Internal verifier signature:	Date:
(if sampled)	

Unit 127: Using Email

Unit reference number: J/502/4299

Level: 1

Credit value: 2

Guided learning hours: 15

#### **Unit summary**

This is the ability to make the best use of email software to safely and securely send, receive and store messages.

This unit is about the skills and techniques to use a range of basic email software tools to send, receive and store messages for straightforward or routine activities. Any aspect that is unfamiliar will require support and advice from others.

Email tools and techniques will be defined as 'basic' because:

- the software tools and functions will be predetermined or commonly used
- the techniques used will be familiar or commonly undertaken.

An activity will typically be 'straightforward or routine' because:

- the task or context will be familiar and involve few factors (for example, time available, audience needs, content, structure)
- the input and output of information will be predetermined by the person supervising the task.

### Assessment requirements/evidence requirements

Evidence of achievement can be derived from a variety of sources. Learners who use their IT skills directly in their day-to-day work can prove their competence whilst doing so. Alternatively learners can use scenarios and knowledge tests - or a mixture of both - to demonstrate competence.

### Assessment methodology

All ITQ units may be assessed using any method, or combination of methods, which clearly demonstrates that the learning outcomes and assessment criteria have been met.

Whilst assessors are required to have a sound understanding of the unit requirements and be able to give appropriate feedback to learners, they do not have to be A1 qualified. However, ideally every assessor should have ITQ Level 3 or equivalent in order to be able to adequately assess at that level and below.

To pass this unit, learners need to demonstrate that they can meet all the learning outcomes for the unit. The assessment criteria outline the requirements that the learner is expected to meet to achieve the learning outcomes and the unit.

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Use email software tools and techniques to compose and send messages	1.1	Use software tools to compose and format email messages			
		1.2	Attach files to email messages			
		1.3	Send email messages			
		1.4	Identify how to stay safe and respect others when using email			
		1.5	Use an address book to store and retrieve contact information			
2	Manage incoming email effectively	2.1	Follow guidelines and procedures for using email			
		2.2	Identify when and how to respond to email messages			
		2.3	Read and respond to email messages appropriately			
		2.4	Identify what messages to delete and when to do so			
		2.5	Organise and store email messages			
		2.6	Respond appropriately to common email problems			

Learner name: Date:

Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature:	Date:
(if sampled)	

## Unit 227: Using Email

Unit reference number: M/502/4300

Level: 2

Credit value: 3

Guided learning hours: 20

### **Unit summary**

This is the ability to make the best use of email software to safely and securely send, receive and store messages.

This unit is about the skills and knowledge to make effective use of a range of intermediate email software tools to send, receive and store messages for, at times, non-routine or unfamiliar activities. Any aspect that is unfamiliar may require support and advice from others.

Email tools and techniques will be defined as 'intermediate' because:

- the software tools and functions will be at times non-routine or unfamiliar
- the techniques required will involve a number of steps and at times be non-routine or unfamiliar.

An activity will typically be 'non-routine or unfamiliar' because:

- the task or context is likely to require some analysis, clarification or research (to separate the components and to identify what factors need to be considered, for example, time available, audience needs, accessibility of source, types of content and meaning) before an approach can be planned
- the user will take some responsibility for developing the input or output of information.

## Assessment requirements/evidence requirements

Evidence of achievement can be derived from a variety of sources. Learners who use their IT skills directly in their day-to-day work can prove their competence whilst doing so. Alternatively learners can use scenarios and knowledge tests - or a mixture of both - to demonstrate competence.

### Assessment methodology

All ITQ units may be assessed using any method, or combination of methods, which clearly demonstrates that the learning outcomes and assessment criteria have been met.

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Use email software tools and techniques to	1.1	Select and use software tools to compose and format email messages, including attachments			
	compose and send	1.2	Determine the message size and how it can be reduced			
	messages	1.3	Send email messages to individuals and groups			
		1.4	Describe how to stay safe and respect others when using email			
		1.5	Use an address book to organise contact information			
2	Manage incoming email	2.1	Follow guidelines and procedures for using email			
	2	2.2	Read and respond to email messages appropriately			
		2.3	Use email software tools and techniques to automate responses			
		2.4	Describe how to archive email messages, including attachments			
		2.5	Organise, store and archive email messages effectively			
		2.6	Respond appropriately to email problems			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

## Unit 327: Using Email

Unit reference number: T/502/4301

Level: 3

Credit value: 3

Guided learning hours: 20

### **Unit summary**

This is the ability to send and receive messages. Whilst it is primarily associated with the internet, it is not essential to involve internet technology.

#### This involves:

- using basic email software facilities (e.g. address books) to send emails to individuals, sending, receiving and opening attachments (e.g. digital pictures, word processing documents or spreadsheets).
- using more advanced email facilities (e.g. for setting up groups of email addresses, adding a signature, using rtf or html to alter the design and format of emails and compressing attachments).
- making the most of advanced email facilities (e.g. for setting up automatic redirection or replies, using encryption and changing browser settings to deal with junk email).

## Assessment requirements/evidence requirements

Evidence of achievement can be derived from a variety of sources. Learners who use their IT skills directly in their day-to-day work can prove their competence whilst doing so. Alternatively learners can use scenarios and knowledge tests – or a mixture of both – to demonstrate competence.

### Assessment methodology

All ITQ units may be assessed using any method, or combination of methods, which clearly demonstrates that the learning outcomes and assessment criteria have been met.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Use email software tools and techniques to	1.1	Select and use software tools to compose and format email messages, including attachments			
	compose and send	1.2	Explain methods to improve message transmission			
	messages	1.3	Send email messages to individuals and groups			
		1.4	Explain why and how to stay safe and respect others when using email			
		1.5	Use an address book to manage contact information			
2	Manage use of email software effectively	2.1	Develop and communicate guidelines and procedures for using email effectively			
		2.2	Read and respond appropriately to email messages and attachments			
		2.3	Use email software tools and techniques to automate responses			
		2.4	Explain why, how and when to archive messages			
		2.5	Organise, store and archive email messages effectively			
		2.6	Customise email software to make it easier to use			
		2.7	Explain how to minimise email problems			

Learning outcomes			Evidence type	Portfolio reference	Date
	2.8	Respond appropriately to email problems			

Learner name:

Learner signature:

Assessor signature:

Internal verifier signature:

if sampled)

Date:

Date:

## Unit 128: Using the Internet

Unit reference number: T/502/4296

Level: 1

Credit value: 3

Guided learning hours: 20

### **Unit summary**

This is the ability to set up and use appropriate connection methods to access the internet; make the best use of browser software tools and techniques to search for, retrieve and exchange information using a browser or public search engine and work safely and securely online.

This unit is about the skills and knowledge needed by the IT user to understand and use a connection method and basic internet software tools and techniques to search for and exchange information for straightforward or routine activities. Any aspect that is unfamiliar will require support and advice from others.

Internet tools and techniques will be defined as 'basic' because:

- the software tools and functions will be pre-determined or commonly used
- the range of techniques used for searching and exchanging information will be familiar or commonly undertaken.

An activity will typically be 'straightforward or routine' because:

- the task or context will be familiar and involve few factors (for example, time available, audience needs, content, structure)
- the input and output of information will be predetermined by the person supervising the task.

## Assessment requirements/evidence requirements

Evidence of achievement can be derived from a variety of sources. Learners who use their IT skills directly in their day-to-day work can prove their competence whilst doing so. Alternatively learners can use scenarios and knowledge tests - or a mixture of both - to demonstrate competence.

## Assessment methodology

All ITQ units may be assessed using any method, or combination of methods, which clearly demonstrates that the learning outcomes and assessment criteria have been met.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Connect to the internet	1.1	Identify different types of connection methods that can be used to access the internet			
		1.2	Access the internet or intranet			
2	Use browser software to	2.1	Use browser tools to navigate webpages			
		2.2	Identify when to change browser settings to aid navigation			
		2.3	Adjust browser settings to meet needs			
		2.4	Use browser help facilities			
3	Use browser tools to search for information	3.1	Select and use appropriate search techniques to locate information			
	from the internet	3.2	Outline how information meets requirements			
	3.3	3.3	Use references to make it easier to find information another time			
		3.4	Download and save different types of information from the internet			
4		4.1	Select and use tools and techniques to communicate information online			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
	Use browser software to communicate	4.2	Use browser tools to share information sources with others			
	information online	4.3	Submit information online using forms or interactive sites			
		4.4	Identify opportunities to post or publish material to websites			
5	Follow and understand	5.1	Identify the threats to user safety when working online			
	the need for safety and	5.2	Outline how to minimise internet security risks			
	WOTKITIS OTHITC	5.3	Work responsibly and take appropriate safety and security precautions when working online			
		5.4	Keep personal information secure			
		5.5	Follow relevant laws, guidelines and procedures for the use of the internet			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

## Unit 228: Using the Internet

Unit reference number: A/502/4297

Level: 2

Credit value: 4

Guided learning hours: 30

### **Unit summary**

This is the ability to set up and use appropriate connection methods to access the internet; make the best use of browser software tools and techniques to search for, retrieve and exchange information using a browser or public search engine, and work safely and securely online.

This unit is about the skills and knowledge needed by the IT user to understand and make effective use of a connection method and intermediate internet software tools and techniques to search for and exchange information for, at times, non-routine or unfamiliar activities. Any aspect that is unfamiliar may require support and advice from others.

Internet tools and techniques at this level will be defined as:

- the software tools and functions will be at times non-routine or unfamiliar
- the range of techniques used for searching and exchanging information will involve a number of steps and at times be non-routine or unfamiliar.

An activity will typically be 'non-routine or unfamiliar' because:

- the task or context is likely to require some analysis, clarification or research (to separate the components and to identify what factors need to be considered, for example, time available, audience needs, accessibility of source, types of content and meaning) before an approach can be planned
- the user will take some responsibility for selecting how to search for and exchange the information.

## Assessment requirements/evidence requirements

Evidence of achievement can be derived from a variety of sources. Learners who use their IT skills directly in their day-to-day work can prove their competence whilst doing so.

Alternatively learners can use scenarios and knowledge tests - or a mixture of both - to demonstrate competence.

## Assessment methodology

All ITQ units may be assessed using any method, or combination of methods, which clearly demonstrates that the learning outcomes and assessment criteria have been met.

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Connect to the internet	1.1	Identify different types of connection methods that can be used to access the internet			
		1.2	Identify the benefits and drawbacks of the connection method used			
		1.3	Get online with an internet connection			
		1.4	Use help facilities to solve internet connection problems			
2	Use browser software to navigate web pages effectively	2.1	Select and use browser tools to navigate web pages			
		2.2	Identify when to change settings to aid navigation			
		2.3	Adjust browser settings to optimise performance and meet needs			
		2.4	Identify ways to improve the performance of a browser			
3	Use browser tools to search for information	3.1	Select and use appropriate search techniques to locate information efficiently			
	from the internet	3.2	Describe how well information meets requirements			
		3.3	Manage and use references to make it easier to find information another time			

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
		3.4	Download, organise and store different types of information from the internet			
4	Use browser software to communicate	4.1	Identify opportunities to create, post or publish material to websites			
	information online	4.2	Select and use appropriate tools and techniques to communicate information online			
		4.3	Use browser tools to share information sources with others			
		4.4	Submit information online			
5	Use internet and	5.1	Searching for information on the internet or an intranet			
	intranet to access,	5.2	Find and evaluate information			
	different types when communicating with others	Exchange information following the rules of 'netiquette' when communicating with others				
		5.4	Choose and use appropriate methods of exchanging information			
		5.5	Use interactive sites			
		5.6	Customise browser settings to improve the performance of software			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:

Internal verifier signature:	Date:
(if sampled)	

## Unit 328: Using the Internet

Unit reference number: F/502/4298

Level: 3

Credit value: 5

Guided learning hours: 40

### **Unit summary**

This is the ability to set up and use appropriate connection methods to access the internet; make the best use of browser software tools and techniques to search for, retrieve and exchange information using a browser or public search engine, and work safely and securely online.

This unit is about the skills and knowledge needed by the IT User to advise on and set up an internet connection to meet a variety of user needs. They can also make efficient use of advanced internet software tools and techniques to search for and exchange information for complex and non-routine activities.

Internet tools and techniques will be defined as 'advanced' because:

- the software tools and functions required will be described as complex because at times they involve having the idea that there may be a tool or function to do something (eg improve efficiency or create an effect), exploring technical support, selfteaching and applying
- the range of techniques required for searching and exchanging information will be complex, and the selection process may involve research, identification and application.

An activity will typically be 'complex and non-routine' because:

- the task is likely to require research, identification and application
- the context is likely to require research, analysis and interpretation
- the user will take full responsibility for searching for and exchanging the information.

## Assessment requirements/evidence requirements

Evidence of achievement can be derived from a variety of sources. Learners who use their IT skills directly in their day-to-day work can prove their competence whilst doing so.

Alternatively learners can use scenarios and knowledge tests – or a mixture of both – to demonstrate competence.

### Assessment methodology

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All ITQ units may be assessed using any method, or combination of methods, which clearly demonstrates that the learning outcomes and assessment criteria have been met.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Select and set up an appropriate connection	1.1	Identify different types of connection methods that can be used to access the internet			
	to access the internet	1.2	Explain the benefits and drawbacks of different connection methods			
		1.3	Analyse the issues affecting different groups of users			
		1.4	Select and set up an internet connection using an appropriate combination of hardware and software			
		1.5	Recommend a connection method for internet access to meet identified needs			
		1.6	Diagnose and solve internet connection problems			
2	Set up and use browser software to navigate web	2.1	Select and use browser tools to navigate web pages effectively			
		2.2	Explain when to change browser settings to aid navigation			
		2.3	Adjust and monitor browser settings to maintain and improve performance			
		2.4	Explain when and how to improve browser performance			
		2.5	Customise browser software to make it easier to use			

Lea	arning outcomes	Assessment criteria		Evidence type	Portfolio reference	Date
3	Use browser tools to search effectively and	3.1	Select and use appropriate search techniques to locate information efficiently			
	efficiently for information from the internet	3.2	Evaluate how well information meets requirements			
	from the internet	3.3	Manage and use references to make it easier to find information another time			
		3.4	Download, organise and store different types of information from the internet			
4	Use browser software to communicate information online	4.1	Identify and analyse opportunities to create, post or publish material to websites			
		4.2	Select and use appropriate tools and techniques to communicate information online			
		4.3	Share and submit information online using appropriate language and moderate content from others			
5	Develop and apply appropriate safety and	5.1	Explain the threats to system performance when working online			
	security practices and procedures when	5.2	Work responsibly and take appropriate safety and security precautions when working online			
	working online	5.3	Explain the threats to information security and integrity when working online			
		5.4	Keep information secure and manage user access to online sources securely			
		5.5	Explain the threats to user safety when working online			
		5.6	Explain how to minimise internet security risks			

Learning outcomes		Asse	Assessment criteria		Portfolio reference	Date
		5.7	Develop and promote laws, guidelines and procedures for safe and secure use of the internet			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

### Unit 129: Presentation Software

Unit reference number: K/502/4621

Level: 1

Credit value: 3

Guided learning hours: 20

### **Unit summary**

This is the ability to use software applications to produce effective presentations, which include a combination of media (e.g. images, animation and sound) for education, entertainment or information sharing.

This unit is about the skills and knowledge required by an IT user to use a range of basic presentation software tools and techniques to produce straightforward or routine presentations. Any aspect that is unfamiliar will require support and advice from others.

Presentation tools and techniques at this level are described as 'basic' because:

- the software tools and functions will be predefined or commonly used
- the range of entry, manipulation and outputting techniques will be straightforward or routine
- the inputting, manipulating and outputting of the information will be predetermined, straightforward or routine.

## Assessment requirements/evidence requirements

Evidence of achievement can be derived from a variety of sources. Learners who use their IT skills directly in their day-to-day work can prove their competence whilst doing so. Alternatively learners can use scenarios and knowledge tests - or a mixture of both - to demonstrate competence.

## Assessment methodology

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All ITQ units may be assessed using any method, or combination of methods, which clearly demonstrates that the learning outcomes and assessment criteria have been met.

Whilst assessors are required to have a sound understanding of the unit requirements and be able to give appropriate feedback to learners, they do not have to be A1 qualified.

However, ideally every assessor should I	have ITQ Level 3 or equivalent in order to be able
to adequately assess at that level and be	elow.

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Input and combine text and other information	1.1	Identify what types of information are required for the presentation			
	within presentation slides	1.2	Select and use different slide layouts as appropriate for different types of information			
	1	1.3	Enter information into presentation slides so that it is ready for editing and formatting			
		1.4	Identify any constraints which may affect the presentation			
		1.5	Combine information of different forms or from different sources for presentations			
		1.6	Store and retrieve presentation files effectively, in line with local guidelines and conventions where available			
2	software tools to structure, edit and	2.1	Identify what slide structure to use			
		2.2	Select and use an appropriate template to structure slides			
	format slides	2.3	Select and use appropriate techniques to edit slides			
		2.4	Select and use appropriate techniques to format slides			

Learning outcomes		Asse	Assessment criteria		Portfolio reference	Date
3	Prepare slides for presentation to meet	3.1	Identify how to present slides to meet needs and communicate effectively			
	needs 3.2	3.2	Prepare slides for presentation			
		3.3	Check presentation meets needs, using IT tools and making corrections as necessary			

Learner name:

Learner signature:

Assessor signature:

Internal verifier signature:

(if sampled)

Date:

Date:

### Unit 229: Presentation Software

Unit reference number: M/502/4622

Level: 2

Credit value: 4

Guided learning hours: 30

### **Unit summary**

This is the ability to use software applications to produce effective presentations, which include a combination of media (e.g. images, animation and sound) for education, entertainment or information sharing.

This unit is about the skills and knowledge required by an IT user to select and use a wide range of intermediate presentation software tools and techniques effectively to produce presentations that are at times non-routine or unfamiliar. Any aspect that is unfamiliar may require support and advice from others.

Presentation tools and techniques at this level will be described as 'intermediate' because:

- the software tools and functions used will be at times non-routine or unfamiliar
- the choice and use of input, manipulation and output techniques will need to take account of a number of factors or elements
- the user will take some responsibility for inputting, structuring, editing and presenting the information, which at times may be non-routine or unfamiliar.

### Assessment requirements/evidence requirements

Evidence of achievement can be derived from a variety of sources. Learners who use their IT skills directly in their day-to-day work can prove their competence whilst doing so. Alternatively learners can use scenarios and knowledge tests – or a mixture of both – to demonstrate competence.

# Assessment methodology

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All ITQ units may be assessed using any method, or combination of methods, which clearly demonstrates that the learning outcomes and assessment criteria have been met.

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Lea	arning outcomes	Asse	Assessment criteria		Portfolio reference	Date
1	Input and combine text and other information	1.1	Identify what types of information are required for the presentation			
	within presentation slides	1.2	Enter text and other information using layouts appropriate to type of information			
		1.3	Insert charts and tables into presentation slides			
		1.4	Insert images, video or sound to enhance the presentation			
		1.5	Identify any constraints which may affect the presentation			
		1.6	Organise and combine information of different forms or from different sources for presentations			
		1.7	Store and retrieve presentation files effectively, in line with local guidelines and conventions where available			
2	Use presentation software tools to structure, edit and format slide sequences	2.1	Identify what slide structure and themes to use			
		2.2	Select, change and use appropriate templates for slides			
		2.3	Select and use appropriate techniques to edit slides and presentations to meet needs			

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
		2.4	Select and use appropriate techniques to format slides and presentations			
		2.5	Identify what presentation effects to use to enhance the presentation			
		2.6	Select and use animation and transition effects appropriately to enhance slide sequences			
3	Prepare slideshow for presentation	3.1	Describe how to present slides to meet needs and communicate effectively			
		3.2	Prepare slideshow for presentation			
		3.3	Check presentation meets needs, using IT tools and making corrections as necessary			
		3.4	Identify and respond to any quality problems with presentations to ensure that presentations meet needs			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

### Unit 329: Presentation Software

Unit reference number: T/502/4623

Level: 3

Credit value: 6

Guided learning hours: 45

### **Unit summary**

This is the ability to use software applications to produce effective presentations, which include a combination of media (e.g. images, animation and sound) for education, entertainment or information sharing.

This unit is about the skills and knowledge required by an IT user to select and use a wide range of advanced presentation software tools and techniques effectively to produce presentations that are complex or non-routine.

Presentation tools and techniques will be described as 'advanced' because:

- the software tools and functions used will be complex and at times require new learning, which will involve having the idea that there may be a tool or function to do something (e.g. improve efficiency or create an effect), exploring technical support, self-teaching and applying
- the inputting, manipulating and outputting techniques will be complex, and will involve research, identification and application
- the user will take full responsibility for inputting, structuring, editing and presenting the information.

# Assessment requirements/evidence requirements

Evidence of achievement can be derived from a variety of sources. Learners who use their IT skills directly in their day-to-day work can prove their competence whilst doing so. Alternatively learners can use scenarios and knowledge tests – or a mixture of both – to demonstrate competence.

## Assessment methodology

204

All ITQ units may be assessed using any method, or combination of methods, which clearly demonstrates that the learning outcomes and assessment criteria have been met.

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Input and combine text and other information within presentation slides	1.1	Explain what types of information are required for the presentation			
		1.2	Enter text and other information using layouts appropriate to type of information			
		1.3	Insert charts and tables and link to source data			
		1.4	Insert images, video or sound to enhance the presentation			
		1.5	Identify any constraints which may affect the presentation			
		1.6	Organise and combine information for presentations in line with any constraints			
		1.7	Store and retrieve presentation files effectively, in line with local guidelines and conventions where available			
2	software tools to structure, edit and format presentations	2.1	Explain when and how to use and change slide structure and themes to enhance presentations			
		2.2	Create, amend and use appropriate templates and themes for slides			
		2.3	Explain how interactive and presentation effects can be used to aid meaning or impact			

Learning outcomes		Asse	Assessment criteria		Portfolio reference	Date
		2.4	Select and use appropriate techniques to edit and format presentations to meet needs			
		2.5	Create and use interactive elements to enhance presentations			
		2.6	Select and use animation and transition techniques appropriately to enhance presentations			
3	slideshow for presentation 3.	3.1	Explain how to present slides to communicate effectively for different contexts			
		3.2	Prepare interactive slideshow and associated products for presentation			
		3.3	Check presentation meets needs, using IT tools and making corrections as necessary			
		3.4	Evaluate presentations, identify any quality problems and discuss how to respond to them			
		3.5	Respond appropriately to quality problems to ensure that presentations meet needs and are fit for purpose			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

## Unit 132: Word Processing Software

Unit reference number: L/502/4627

Level: 1

Credit value: 3

Guided learning hours: 20

### **Unit summary**

This is the ability to use a software application designed for the creation, editing and production of largely text-based documents.

This unit is about the skills and knowledge required by an IT user to use a range of basic word processing software tools and techniques to produce appropriate, straightforward or routine documents. Any aspect that is unfamiliar will require support and advice from others.

Word processing tools and techniques will described as 'basic' because:

- the software tools and functions will be predetermined or commonly used
- the techniques needed for text entry, manipulation and outputting will be straightforward or routine.

## Assessment requirements/evidence requirements

Evidence of achievement can be derived from a variety of sources. Learners who use their IT skills directly in their day-to-day work can prove their competence whilst doing so. Alternatively learners can use scenarios and knowledge tests – or a mixture of both – to demonstrate competence.

## Assessment methodology

208

All ITQ units may be assessed using any method, or combination of methods, which clearly demonstrates that the learning outcomes and assessment criteria have been met.

Whilst assessors are required to have a sound understanding of the unit requirements and be able to give appropriate feedback to learners, they do not have to be A1 qualified. However, ideally every assessor should have ITQ Level 3 or equivalent in order to be able to adequately assess at that level and below.

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Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Enter, edit and combine text and other information accurately within word processing documents	1.1	Identify what types of information are needed in documents			
		1.2	Identify what templates are available and when to use them			
		1.3	Use keyboard or other input method to enter or insert text and other information			
		1.4	Combine information of different types or from different sources into a document			
		1.5	Enter information into existing tables, forms and templates			
		1.6	Use editing tools to amend document content			
		1.7	Store and retrieve document files effectively, in line with local guidelines and conventions where available			
2	Structure information within word processing documents	2.1	Create and modify tables to organise tabular or numeric information			
		2.2	Select and apply heading styles to text			
3		3.1	Identify what formatting to use to enhance presentation of the document			

Le	Learning outcomes		ssment criteria	Evidence type	Portfolio reference	Date
	Use word processing software tools to format	3.2	Select and use appropriate techniques to format characters and paragraphs			
		3.3	Select and use appropriate page layout to present and print documents			
		3.4	Check documents meet needs, using IT tools and making corrections as necessary			

Learner name:

Learner signature:

Assessor signature:

Internal verifier signature:

(if sampled)

Date:

Date:

### Unit 232: Word Processing Software

Unit reference number: R/502/4628

Level: 2

Credit value: 4

Guided learning hours: 30

#### **Unit summary**

This is the ability to use a software application designed for the creation, editing and production of largely text-based documents.

This unit is about the skills and knowledge required by an IT user to select and use a range of intermediate word processing software tools and techniques to produce documents that are at times non-routine or unfamiliar. Any aspect that is unfamiliar may require support and advice from others.

Word processing tools and techniques will be described as 'intermediate' because:

- the software tools and functions will be at times non-routine or unfamiliar
- the choice of techniques will need to take account of a number of factors or elements
- the user will take some responsibility for the inputting, manipulating and outputting of the information.

### Assessment requirements/evidence requirements

Evidence of achievement can be derived from a variety of sources. Learners who use their IT skills directly in their day-to-day work can prove their competence whilst doing so. Alternatively learners can use scenarios and knowledge tests - or a mixture of both - to demonstrate competence.

### Assessment methodology

All ITQ units may be assessed using any method, or combination of methods, which clearly demonstrates that the learning outcomes and assessment criteria have been met.

Whilst assessors are required to have a sound understanding of the unit requirements and be able to give appropriate feedback to learners, they do not have to be A1 qualified.

However, ideally every assessor should have ITQ Level 3 or equivalent in order to be able
to adequately assess at that level and below.

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Enter and combine text and other information	1.1	Identify what types of information are needed in documents			
	accurately within word processing documents	1.2	Use appropriate techniques to enter text and other information accurately and efficiently			
		1.3	Select and use appropriate templates for different purposes			
		1.4	Identify when and how to combine and merge information from other software or other documents			
		1.5	Select and use a range of editing tools to amend document content			
		1.6	Combine or merge information within a document from a range of sources			
		1.7	Store and retrieve document and template files effectively, in line with local guidelines and conventions where available			
2	Create and modify layout and structures for word processing documents	2.1	Identify the document requirements for structure and style			
		2.2	Identify what templates and styles are available and when to use them			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.3	Create and modify columns, tables and forms to organise information			
		2.4	Select and apply styles to text			
3	software tools to format and present documents effectively to meet requirements  3.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3.3	3.1	Identify how the document should be formatted to aid meaning			
		3.2	Select and use appropriate techniques to format characters and paragraphs			
		3.3	Select and use appropriate page and section layouts to present and print documents			
		3.4	Describe any quality problems with documents			
		3.5	Check documents meet needs, using IT tools and making corrections as necessary			
		3.6	Respond appropriately to quality problems with documents			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

### Unit 332: Word Processing Software

Unit reference number: Y/502/4629

Level: 3

Credit value: 6

Guided learning hours: 45

#### **Unit summary**

This is the ability to use a software application designed for the creation, editing and production of largely text-based documents.

This unit is about the skills and knowledge required by an IT user to select and use a range of advanced word processing software tools and techniques to produce complex and non-routine documents.

Word processing tools and techniques will be described as 'advanced' because:

- the software tools and functions will be complex and at times require new learning, which will involve having the idea that there may be a tool or function to do something (e.g. improve efficiency or create an effect), exploring technical support, self-teaching and applying
- the techniques required will be complex, and the process of selecting appropriate techniques may involve research, identification and application
- the user will take full responsibility for the inputting, manipulating and outputting of the information.

### Assessment requirements/evidence requirements

Evidence of achievement can be derived from a variety of sources. Learners who use their IT skills directly in their day-to-day work can prove their competence whilst doing so. Alternatively learners can use scenarios and knowledge tests – or a mixture of both – to demonstrate competence.

### Assessment methodology

216

All ITQ units may be assessed using any method, or combination of methods, which clearly demonstrates that the learning outcomes and assessment criteria have been met.

Whilst assessors are required to have a sound understanding of the unit requirements and be able to give appropriate feedback to learners, they do not have to be A1 qualified. However, ideally every assessor should have ITQ Level 3 or equivalent in order to be able to adequately assess at that level and below.

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Enter and combine text and other information	1.1	Summarise what types of information are needed for the document and how they should be linked or integrated			
	accurately within word processing documents	1.2	Use appropriate techniques to enter text and other types of information accurately and efficiently			
	1.5	1.3	Create, use and modify appropriate templates for different types of documents			
		1.4	Explain how to combine and merge information from other software or multiple documents			
		1.5	Combine and merge information within a document from a range of sources			
		1.6	Store and retrieve document and associated files effectively, in line with local guidelines and conventions where available			
		1.7	Select and use tools and techniques to work with multiple documents or users			
		1.8	Customise interface to meet needs			
2	Create and modify appropriate layouts,	2.1	Analyse and explain the requirements for structure and style			

Lea	arning outcomes	Assessment criteria		Evidence type	Portfolio reference	Date
	structures and styles for word processing	2.2	Create, use and modify columns, tables and forms to organise information			
	documents	2.3	Define and modify styles for document elements			
		2.4	Select and use tools and techniques to organise and structure long documents			
3	software tools and techniques to format and present documents effectively to meet requirements  3	3.1	Explain how the information should be formatted to aid meaning			
		3.2	Select and use appropriate techniques to format characters and paragraphs			
		3.3	Select and use appropriate page and section layouts to present and print multi-page and multi-section documents			
		3.4	Check documents meet needs, using IT tools and making corrections as necessary			
		3.5	Evaluate the quality of the documents produced to ensure they are fit for purpose			
		3.6	Respond appropriately to any quality problems with documents to ensure that outcomes meet needs and are fit for purpose			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:

Internal verifier signature:	Date:
(if sampled)	

# Unit 335: Copper Cable Jointing and Closure Techniques

Unit reference number: L/601/0656

Level: 3

Credit value: 23

Guided learning hours: 120

#### **Unit summary**

This unit enables the learner to develop the skills, knowledge and understanding requirement to safely construct and maintain joints in the telecommunications network. This unit is particularly focused on working with copper cabling.

### Assessment methodology

This unit is assessed in the workplace or in conditions resembling the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Track and locate	1.1	Carry out functional checks on a cable locator			
	underground services using a cable locator	1.2	<ul> <li>Use a cable locator to:</li> <li>locate and track an underground cable terminating on a known point</li> <li>locate and track a cable in a duct between two known points</li> <li>locate a blockage in a duct</li> <li>locate a buried cover</li> </ul>			
	1.	1.3	Describe the range of underground services (e.g. electricity, water, gas) and how to identify them			
2	Safely assemble and dismantle portable propane equipment 2.2  2.3	2.1	Explain safety considerations when working with and storing propane equipment			
		2.2	Safely connect and disconnect portable equipment to a propane cylinder			
		2.3	Check connected equipment for leaks			
		2.4	Carry out an emergency repair to a gas hose			
		2.5	Safely store and transport propane equipment			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.6	Explain the procedures to follow in case of an incident			
3	Construct and maintain	3.1	Safely enter an existing joint closure			
	joint closures	3.2	Explain the actions to take if the joint is found to be defective (e.g. wet or corroded joints)			
		3.3	Explain the actions to take if an obsolete closure is found on a cable			
		3.4	Explain when a closure can and cannot be used to house internal and external cables			
		3.5	Close a joint (e.g. inline or cap end closures) to the required quality standards			
4	Construct a temporary joint closure	4.1	Explain the circumstances in which a temporary joint closure is appropriate			
		4.2	Fit a temporary closure to a non-pressurised cable			
5	Prepare and joint	5.1	Prepare copper cables for jointing			
	cables	5.2	Describe the circuit identification systems for copper cables			
		5.3	Select and use the appropriate connectors to construct a joint according to manufacturer's instructions			
		5.4	Use a tester to carry out continuity checks on jointed circuits			
6	Prepare and terminate copper cables	6.1	Prepare a copper cable for termination, according to type of connection required			
		6.2	Use an appropriate tool to terminate wires on to the terminal block			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

#### Unit 236: Introduction to Fibre Telecommunications

Unit reference number: L/650/4864

Level: 2

Credit value: 2

Guided learning hours: 15

### **Unit summary**

This unit enables the learner to develop the knowledge and understanding needed to work safely on an optical fibre telecommunications network.

### Assessment methodology

This unit is assessed in the workplace or in conditions resembling the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Know the properties, structures and	1.1	State the advantages and disadvantages of optical fibre compared to copper			
	components included in	1.2	Identify different types of optical fibre			
	typical fibre telecommunications	1.3	State the physical components required to build a fibre infrastructure			
	networks	1.4	Identify the different structures used in fibre networks			
2	Know how to stay safe	2.1	State the risks when working with optical fibre			
	when working with optical fibre networks	2.2	State key safety measures to consider when working with optical fibre			
r c	prepare and install	3.1	Describe how to prepare optical fibre components for use			
		3.2	Describe how to provide fibres from a customer premises point of entry to the equipment fibre pigtails for both two-fibre and single-fibre working			

Learner name:	Date:
Learner signature:	Date:

Assessor signature:	Date:
Internal verifier signature:	Date:
(if sampled)	

# Unit 336: Fibre Telecommunications Techniques

Unit reference number: H/601/0663

Level: 3

Credit value: 15

Guided learning hours: 80

#### **Unit summary**

This unit enables the learner to develop the skills, knowledge and understanding requirement to safely install and maintain components in an optical fibre telecommunications network.

### Assessment methodology

This unit is assessed in the workplace or in conditions resembling the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Understand the	1.1	Identify different types of optical fibre			
	properties, structures and components	1.2	Identify the physical components required to build a fibre infrastructure			
	included in typical fibre telecommunications networks	1.3	Explain the different structures used in fibre networks, and when different structures should be used			
2	practices when working with optical fibre networks	2.1	Identify key safety considerations when working with optical fibre			
		2.2	Identify any existing risk assessments for working with fibre networks			
		2.3	Explain how to dispose of redundant or damaged optical fibres			
3	Know the quality standards and	3.1	Explain the quality standards that apply for all installation and maintenance work on the optical fibre network			
	documentation requirements when working on the optical fibre network	3.2	Explain what technical documentation needs to be completed before and after undertaking work on the fibre network			
4		4.1	Prepare optical fibre components for use			

Le	Learning outcomes		ssment criteria	Evidence type	Portfolio reference	Date
	Prepare and install optical fibre components in exchanges and	4.2	Provide fibres from a customer premises point of entry to the equipment fibre pigtails for both two-fibre and single-fibre working			
	customer premises	4.3	Test components before commissioning the components			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

#### Unit 440: Customer Care for IT and Telecoms Professionals

Unit reference number: H/504/5502

Level: 4

Credit value: 12

Guided learning hours: 100

#### **Unit summary**

This unit gives learners the skills to provide appropriate customer care when working as an IT or telecoms professional. Learners will initially evaluate the importance of customer care for IT and telecoms professionals. They will then have the opportunity to develop professional customer relationships, and look at how customer satisfaction can be measured and analysed in order to improve service delivery.

### Assessment methodology

This unit must be assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
1	Evaluate the importance of customer care for IT	1.1	Describe the types of internal and external customers with whom IT and Telecoms Professionals interact			
	and Telecoms Professionals	1.2	Compare and contrast the type of products and services that IT and Telecoms Professionals provide to customers			
		1.3	Explain what customer care involves for an IT and Telecoms Professional			
		1.4	Explain how different communication options can be used to meet the needs of customers			
		1.5	Describe a range of written and verbal communication techniques			
2	Develop professional customer relationships	2.1	Explain organisational requirements and procedures for customer care			
		2.2	Communicate effectively with customers verbally, in writing and electronically			
		2.3	Develop and maintain professional relationships over time with customers			
		2.4	Advise customers on products and services that would suit their needs			

Lea	Learning outcomes		ssment criteria	Evidence type	Portfolio reference	Date
		2.5	Ensure that documentation and records of customer interaction are maintained and can contribute to service improvement			
3	Improve the delivery of service	3.1	Evaluate the implications of customer satisfaction on the organisation			
		3.2	Evaluate methods for measuring customer satisfaction levels			
		3.3	Analyse and report on customer satisfaction information with recommendations for improving satisfaction levels			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

# Unit 441: Testing IT and Telecoms Systems

Unit reference number: K/504/5503

Level: 4

Credit value: 15

Guided learning hours: 90

#### **Unit summary**

This unit enables learners to test IT and telecoms systems. Learners will initially look at the principles of IT and telecoms testing, and plan to test either an IT or a telecoms system. They will then control the testing of the system components and will evaluate the test results.

#### Assessment methodology

Learning outcomes 2, 3 and 4 must be assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Understand the	1.1	Explain the purposes of testing			
	principles of IT and Telecoms 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			
2	IT or Telecoms system  2.2	2.1	Analyse available information to correctly define the system functionality to be tested and the purpose of the test			
		2.2	Select and document the types, sequences and numbers of tests required to thoroughly test the defined system 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			

Lea	Learning outcomes		Assessment criteria		Portfolio reference	Date
		2.5	Define all required test preparation and conclusion activities			
3	Control the testing of system components	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 the documentation to be used for recording test results			
		3.5	Contribute to the development of organisational test strategy			
4	Evaluate test results	4.1	Ensure that records of individual tests are correctly analysed to identify discrepancies between actual and expected outputs and the source of any recorded errors			
		4.2	Investigate and document the probable causes of identified discrepancies and errors			
		4.3	Examine multiple test records to identify trends or recurring discrepancies and errors			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:

Internal verifier signature:	Date:
(if sampled)	

## Unit 442: IT and Telecoms System Management

Unit reference number: M/504/5504

Level: 4

Credit value: 15

Guided learning hours: 90

#### **Unit summary**

This unit enables learners to manage IT and telecoms systems, including configuring systems to meet organisational objectives and customer needs, risk evaluation and contributing to the development of an organisation's system management strategy.

### Assessment methodology

This unit must be assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Understand how to manage systems	1.1	Explain how to align system functionality with organisational objectives and customer needs			
		1.2	Explain the types of configuration and asset information associated with systems			
		1.3	Explain the types and applications of system management and monitoring tools			
2	Review the functionality and management of systems	2.1	Evaluate the functionality of systems against organisational objectives and customer needs to identify possible improvements			
		2.2	Evaluate current system configuration and asset information to identify possible enhancements to performance and capacity			
		2.3	Assess current system management and monitoring tools, and their use, suggesting possible improvements			
		2.4	Review, and where necessary update, working procedures for system management			
		2.5	Evaluate the impact of regulatory requirements on system management			

Learning outcomes Ass		Asse	essment criteria	Evidence type	Portfolio reference	Date
3	Manage systems	3.1	Select and implement configuration options to optimise system performance and capacity			
		3.2	Ensure that changes made to system configurations are effective			
		3.3	Recognise and resolve any system problems arising from configuration changes			
		3.4	Audit records of system configuration and asset information for completeness and accuracy			
		3.5	Evaluate potential risks, including security threats, to systems			
		3.6	Contribute to the development of the organisation's system management strategy			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

## Unit 443: IT and Telecoms System Operation

Unit reference number: R/504/5513

Level: 4

Credit value: 15

Guided learning hours: 90

#### **Unit summary**

This unit enables learners to operate IT and telecoms systems. Learners will initially develop understanding of the technical architecture of either IT or telecoms systems and how to specify system operation parameters, and will then have the opportunity to control the operation and maintenance of systems.

### Assessment methodology

This unit must be assessed in the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Understand the technical architecture of IT or Telecom systems	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			
2	specify system operation parameters 2.2	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			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		2.5	Describe the routine maintenance or replenishment required to maintain normal system operation			
3	Control the operation of systems	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			
4	Control system maintenance	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			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

# Unit 347: Installing Telecoms Techniques

Unit reference number: T/651/0472

Level: 3

Credit value: 15

Guided learning hours: 80

### **Unit summary**

This unit enables the learner to develop the skills, knowledge and understanding requirement to safely install and maintain components in a telecommunications network.

#### Assessment methodology

This unit is assessed in the workplace or in conditions resembling the workplace. Learners can enter the types of evidence they are presenting for assessment and the submission date against each assessment criterion. Alternatively, centre documentation should be used to record this information.

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Understand the properties, structures and components included in typical telecommunications networks	1.1	Identify relevant network connection points used throughout the telecoms network both legacy and modern			
		1.2	Identify the industry standard types of cables and connections implemented in the telecoms network and how they are used			
		1.3	Explain the principles of industry standard telecoms cable construction and where they can be installed in the network			
2	Understand safe working practices when working	2.1	Identify key safety considerations when working with telecoms components			
	with telecoms networks	2.2	Identify any existing risk assessments for working with telecoms components			
		2.3	Explain how to dispose of redundant or damaged telecoms components			
3	Know the quality standards and	3.1	Explain the quality standards that apply for all installation and maintenance work on the telecoms network			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
	documentation requirements when working on the telecoms network	3.2	Explain how to review and use allocated job specifications to prepare for telecoms component installations.  Explain the documentation and recording of services and products associated with telecoms component.			
4		4.1	products associated with telecoms component installation.			
4	Prepare and install telecoms components in telecoms network	4.1	Prepare telecoms components for use  Install telecoms components in line with organisational procedures			
		4.3	Test components before commissioning the components			

Learner name:	Date:
Learner signature:	Date:
Assessor signature:	Date:
Internal verifier signature: (if sampled)	Date:

# **10** Appeals

Centres must have a policy for dealing with appeals from learners. Appeals may relate to assessment decisions being incorrect or assessment not being conducted fairly. The first step in such a policy is a consideration of the evidence by a Lead Internal Verifier or other member of the programme team. The assessment plan should allow time for potential appeals after learners have been given assessment decisions.

Centres must document all learners' appeals and their resolutions. Further information on the appeals process can be found in the document *Internal assessment in vocational qualifications: Reviews and appeals policy,* available on our website.

# **11** Malpractice

### Dealing with malpractice in assessment

'Malpractice' refers to acts that undermine the integrity and validity of assessment, the certification of qualifications and/or may damage the authority of those responsible for delivering the assessment and certification.

Pearson does not tolerate actual or attempted actions of malpractice by learners, centre staff or centres in connection with Pearson qualifications. Pearson may impose sanctions on learners, centre staff or centres where malpractice or attempted malpractice has been proven.

Malpractice may occur or be suspected in relation to any unit or type of assessment within a qualification. For further details on malpractice and advice on preventing malpractice by learners, please see Pearson's Centre Guidance: Dealing with Malpractice, available on our website.

Centres are required to take steps to prevent malpractice and to assist with investigating instances of suspected malpractice. Learners must be given information that explains what malpractice is and how suspected incidents will be dealt with by the centre. The Centre Guidance: Dealing with Malpractice document gives full information on the actions we expect you to take.

Pearson may conduct investigations if we believe a centre is failing to conduct assessments according to our policies. The above document gives further information, examples, and details the sanctions that may be imposed.

In the interests of learners and centre staff, centres need to respond effectively and openly to all requests relating to an investigation into an incident of suspected malpractice.

### Learner malpractice

The head of centre is required to report incidents of suspected learner malpractice that occur during the delivery of Pearson qualifications. We ask centres to complete JCQ Form M1 (www.jcq.org.uk/malpractice) and email it with any supporting documents (signed statements from the learner, invigilator, copies of evidence, etc) to the Investigations Processing team at candidatemalpractice@pearson.com. The responsibility for determining any appropriate sanctions on learners lies with Pearson. Learners must be informed at the earliest opportunity of the specific allegation and the centre's malpractice policy, including the right of appeal. Learners found guilty of malpractice may be disqualified from the qualification for which they have been entered with Pearson.

Failure to report malpractice constitutes staff or centre malpractice.

### Teacher/centre malpractice

The head of centre is required to inform Pearson's Investigations team of any incident of suspected malpractice (which includes maladministration) by centre staff, before any investigation is undertaken. The head of centre should inform the Investigations team by submitting a JCQ M2 Form (downloadable from <a href="www.jcq.org.uk/malpractice">www.jcq.org.uk/malpractice</a>) with supporting documentation to <a href="mailto:pqsmalpractice@pearson.com">pqsmalpractice@pearson.com</a>. Where Pearson receives allegations of malpractice from other sources (for example Pearson staff, anonymous informants), the Investigations team will conduct the investigation directly or may ask the head of centre to assist.

Pearson reserves the right in cases of suspected malpractice to withhold the issuing of results/certificates while an investigation is in progress. Depending on the outcome of the investigation, results and/or certificates may not be released or they may be withheld.

You should be aware that Pearson may need to suspend certification when undertaking investigations, audits and quality assurances processes. You will be notified within a reasonable period of time if this occurs.

### Sanctions and appeals

Where malpractice is proven, we may impose sanctions such as:

- mark reduction for affected assessments
- disqualification from the qualification
- debarment from registration for Pearson qualifications for a period of time.

If we are concerned about your centre's quality procedures we may impose sanctions such as:

- requiring centres to create an improvement action plan
- requiring staff members to receive further training
- placing temporary suspensions on certification of learners
- placing temporary suspensions on registration of learners
- debarring staff members or the centre from delivering Pearson qualifications
- suspending or withdrawing centre approval status.

The centre will be notified if any of these apply.

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Pearson has established procedures for considering appeals against sanctions arising from malpractice. Appeals against a decision made by Pearson will normally be accepted only from the head of centre (on behalf of learners and/or members or staff) and from individual members (in respect of a decision taken against them personally). Further

information on appeals can be found in the JCQ Appeals booklet (https://www.jcq.org.uk/exams-office/appeals).

# 12 Further information and publications

- Edexcel, BTEC and Pearson Work Based Learning contact details: qualifications.pearson.com/en/contact-us.html.
- Books, software and online resources for UK schools and colleges: <a href="https://www.pearsonschoolsandfecolleges.co.uk">www.pearsonschoolsandfecolleges.co.uk</a>.
- Our publications catalogue lists all the material available to support our qualifications. To access the catalogue and order publications, please visit our website.

Further documents that support the information in this specification:

- Access arrangements and reasonable adjustments (JCQ)
- A guide to the special consideration process (JCQ)
- Collaborative and consortium arrangements for the delivery of vocational qualifications policy (Pearson)
- *UK information manual* (updated annually and available in hard copy) or *Entries and information manual* (available online) (Pearson)
- Distance learning and assessment policy (Pearson)

### **Publisher information**

Any publisher can seek endorsement for their resources and, if they are successful, we will list their resources on our website.

# **13** Glossary

### Section A - General terminology used in specification

Term	Description	
Level	Units and qualifications have a level assigned to them. The level assigned is informed by the level descriptors defined by Ofqual, the qualifications regulator.	
Credit value	All units in this qualification have a credit value. The minimum credit value is 1 and credits can be awarded in whole numbers only.	
Guided learning hours (GLH)	This indicates the number of hours of activities that directly or immediately involve tutors and assessors in teaching, supervising, and invigilating learners, for example lectures, tutorials, online instruction and supervised study. Units may vary in size.	
Total qualification time (TQT)	This indicates the total number of hours that a typical learner will take to complete the qualification. This is in terms of both guided learning hours but also unguided learning, for example private study, time spent in the workplace to master skills.	
Learning outcomes	The learning outcomes of a unit set out what a learner knows, understands or is able to do as the result of a process of learning.	
Assessment criteria	The assessment criteria specify the standard the learner is required to meet to achieve a learning outcome.	
Competence	The minimum knowledge, skills and behaviours required to perform a job role effectively.	
Valid assessment	The assessment assesses the skills or knowledge/understanding in the most sensible, direct way to measure what it is intended to measure.	
Reliable assessment	The assessment is consistent and the agreed approach delivers the correct results on different days for the same learners and different cohorts of learners.	
Workplace simulation	Realistic tasks carried out in the workplace that are additional to the normal work duties for the day to produce evidence for criteria that are very challenging to meet in the natural course of work.	

# Section B – Terms used in knowledge and understanding criteria

Term	Description	
Analyse	Examine methodically and in detail, typically in order to interpret.	
Assess	Consideration of all factors or events that apply, to identify those which are the most important or relevant and make a judgement.	
Compare	Identify the main factors relating to two or more items/situations, explaining the similarities and differences or advantages and disadvantages, and in some cases say which is best and why.	
Describe	Give a clear account in their own words, including all the relevant information (e.g. qualities, characteristics or events, etc.).  Description shows recall and in some cases application.	
Detailed	Having additional facts or information beyond a simple response.	
Evaluate	Bring together all information and review it to form a supported conclusion, drawing on evidence, including strengths, weaknesses, alternative actions, relevant data or information.	
Explain	Provide details and give relevant examples to clarify and extend a point. This would usually be in the context of learners showing their understanding of a technical concept or principle.	
Identify	Shows the main features or purpose of something. Can recognise it and/or name characteristics or facts that relate to it.	
State	Express information in clear and precise terms.	

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## Annexe A: Assessment strategy

In the Pearson BTEC Professional Competence Diplomas, all units are internally assessed. The qualifications are criterion referenced, based on the achievement of all the specified learning outcomes.

Each unit within the qualification has specified assessment criteria which must be used. To achieve a 'pass' a learner must have satisfied **all** the assessment criteria.

### 1 Unit assessment

Unless otherwise specified (see 3 below) all units may be assessed using any method, or combination of methods, which clearly demonstrates that the learning outcomes and assessment criteria have been met.

### 2 Real work activities

- a Learners must complete real work activities for specified units<sup>1</sup> in order to produce evidence to demonstrate they have met the NOS and are occupationally competent.
- b Simulation is an allowed assessment method for all units not specified under a. above.
- c Simulation is also allowed for aspects of units specified in a. above when:
  - a learner is required to complete a work activity that does not occur on a regular basis and therefore opportunities to complete a particular work activity do not easily arise
  - a learner is required to respond to a situation that rarely occurs, such as responding to an emergency situation
  - the safety of a learner, other individuals and/or resources will be put at risk.
- d When simulation is used, assessors must be confident that the simulation replicates the workplace to such an extent that learners will be able to fully transfer their occupational competence to the workplace and real situations.

The current list of specified units is given as an Appendix.

#### 3 Assessment

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a Assessors must be competent in the areas they are assessing i.e. have sufficient and relevant technical/occupational competence in the unit, at or above the level of the unit being assessed

<sup>&</sup>lt;sup>1</sup> This will be indicated in the 'Additional assessment requirements' field of the unit descriptor. A list of relevant units will be maintained by e-skills UK.

b	Assessors must be fully conversant with the unit(s) against which the assessments are to be undertaken.
С	Assessment of real work or simulated must be to recognised standards <sup>2</sup> .

 $<sup>^{2}</sup>$  Currently as specified by unit A1 and/or unit A2  $\,$ 

### Assessment requirements

### 1 Verification

- a IT & Telecom professional competence qualifications must be verified:
  - internally by an internal verifier, who is accountable to the assessment centre; and
  - externally by a Pearson external verifier, who is accountable to the awarding organisation or an agent of the awarding organisation.
- b internal verifiers must:
  - have sufficient and relevant technical/occupational familiarity in the unit(s) being verified;
  - be fully conversant with the standards and assessment criteria in the units to be assessed; and
  - understand the awarding organisation's quality assurance systems and requirements for this qualification.
- c external verifiers must:
  - <sup>3</sup>hold or be working towards a suitable external verification qualification to confirm they understand and are able to carry out external verification;
  - have no connections with the assessment centre, in order to maintain objectivity;
  - have sufficient and relevant technical/occupational understanding in the unit(s) being verified;
  - be fully conversant with the standards and performance criteria in the units to be assessed; and
  - understand the awarding organisation's quality assurance systems for this qualification.
- d Trainee external verifiers must have a plan, which is overseen by the awarding organisation, to achieve the external verifier qualification within an agreed timescale.

<sup>&</sup>lt;sup>3</sup> Currently an external verifier needs to hold unit V2. Or from the past unit D35.

### Appendix – List of Units for which work based evidence is required

(all levels)

Health and Safety in ICT

Customer Care in ICT

Remote Support for Products or Services

Security of ICT Systems

Software Installation and Upgrade

System Management

System Operation

Technical Fault Diagnosis

Technical Advice and Guidance

Testing ICT Systems

User Profile Administration

Working with ICT Hardware and Equipment

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