

**Pearson  
BTEC Level 2 Diploma in  
Professional Competence for IT  
and Telecoms Professionals**

**Pearson  
BTEC Level 3 Diploma in  
Professional Competence for IT  
and Telecoms Professionals**

**Pearson  
BTEC Level 4 Diploma in  
Professional Competence for IT  
and Telecoms Professionals**

**Specification**

NVQ/competence-based qualifications

For first registration September 2010

Issue 6

## **Edexcel, BTEC and LCCI qualifications**

Edexcel, BTEC and LCCI qualifications are awarded by Pearson, the UK's largest awarding body offering academic and vocational qualifications that are globally recognised and benchmarked. For further information, please visit our qualifications website at [qualifications.pearson.com](http://qualifications.pearson.com). Alternatively, you can get in touch with us using the details on our contact us page at [qualifications.pearson.com/contactus](http://qualifications.pearson.com/contactus)

## **About Pearson**

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This specification is Issue 6. Key changes are listed in the summary table on the next page. We will inform centres of any changes to this issue. The latest issue can be found on the Pearson website: [qualifications.pearson.com](http://qualifications.pearson.com)

These qualifications were previously known as:

Pearson BTEC Level 2 Diploma in Professional Competence for IT and Telecoms Professionals (QCF)

Pearson BTEC Level 3 Diploma in Professional Competence for IT and Telecoms Professionals (QCF)

Pearson BTEC Level 4 Diploma in Professional Competence for IT and Telecoms Professionals (QCF)

The QNs remain the same.

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**Summary of specification Issue 6 changes for:**

**Pearson BTEC Level 2 Diploma in Professional Competence  
for IT and Telecoms Professionals**

**Pearson BTEC Level 3 Diploma in Professional Competence  
for IT and Telecoms Professionals**

**Pearson BTEC Level 4 Diploma in Professional Competence  
for IT and Telecoms Professionals**

Summary of changes made between previous issue and this current issue	Page/ section number
Level 2 Diploma in Professional Competence for IT and Telecoms Professionals - unit 236 Fibre Telecommunications Techniques has been added to group B.	19

Earlier issues show previous changes.

If you need further information on these changes or what they mean, contact us via our website at: [qualifications.pearson.com/en/support/contact-us.html](http://qualifications.pearson.com/en/support/contact-us.html).



# Contents

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<b>Qualification titles covered by this specification</b>	<b>1</b>
<b>Key features of the Professional Competence for IT and Telecoms Professionals qualifications</b>	<b>2</b>
What is the purpose of these qualifications?	2
Who are these qualifications for?	2
Delivery and assessment of employee rights and responsibilities	6
What are the benefits of these qualifications to the learner and employer?	7
What are the potential job roles for those working towards these qualifications?	7
What progression opportunities are available to learners who achieve these qualifications?	7
<b>What are the qualification structures for the Pearson BTEC Diplomas in Professional Competence for IT and Telecoms Professionals?</b>	<b>8</b>
Assessment strategy	8
Types of evidence	10
<b>Centre recognition and approval</b>	<b>11</b>
Centre recognition	11
Approvals agreement	11
<b>Quality assurance</b>	<b>11</b>
<b>What resources are required to deliver these qualifications?</b>	<b>11</b>
<b>Unit format</b>	<b>12</b>
<b>Qualification Structures</b>	<b>14</b>
Pearson BTEC Level 2 Diploma in Professional Competence for IT and Telecoms Professionals	15
Understanding the unit structure	15
Pearson BTEC Level 3 Diploma in Professional Competence for IT and Telecoms Professionals	22
Understanding the unit structure	22
Pearson BTEC Level 4 Diploma in Professional Competence for IT and Telecoms Professionals	29
Understanding the unit structure	29
<b>Units</b>	<b>36</b>
Unit title: Health and Safety in ICT	38

Unit title: Develop Own Effectiveness and Professionalism	40
Unit title: Develop Own Effectiveness and Professionalism	44
Unit title: Develop Own Effectiveness and Professionalism	48
Unit title: Customer Care in ICT	52
Unit title: Customer Care in ICT	56
Unit title: Customer Care in ICT	62
Unit title: Interpersonal and Written Communication	66
Unit title: Interpersonal and Written Communication	70
Unit title: Interpersonal and Written Communication	76
Unit title: Data modelling	82
Unit title: Data Modelling	84
Unit title: Data Structures and Algorithms	88
Unit title: Technical Fault Diagnosis	92
Unit title: Technical Fault Diagnosis	96
Unit title: Technical Fault Diagnosis	102
Unit title: Working with ICT Hardware and Equipment	108
Unit title: Working with ICT Hardware and Equipment	112
Unit title: Working with ICT Hardware and Equipment	116
Unit title: Working with ICT Hardware and Equipment	120
Unit title: Introduction to IT Systems Development	124
Unit title: Investigating and Defining Customer Requirements for ICT Systems	128
Unit title: Investigating and Defining Customer Requirements for ICT Systems	132
Unit title: Managing Software Development	136
Unit title: Computer Games Development	140
Unit title: Computer Games Development	142
Unit title: Creating a Procedural Computer Program	146
Unit title: Creating a Procedural Computer Program	150
Unit title: Designing and Developing Procedural Computer Programs	154
Unit title: Creating an Object-Oriented Computer Program	158
Unit title: Creating an Object-Oriented Computer Program	162
Unit title: Designing and Developing Object-Oriented Computer Programs	166
Unit title: Creating an Event-Driven Computer Program	170
Unit title: Creating an Event-Driven Computer Program	174
Unit title: Designing and Developing Event-Driven Computer Programs	178
Unit title: Customer Apparatus and Line Installation	182

Unit title: Quality Management of ICT Products and Services	190
Unit title: Remote Support for Products or Services	194
Unit title: Remote Support for Products or Services	198
Unit title: Remote Support for Products or Services	202
Unit title: Remote Support for ICT Products or Services	208
Unit title: Security of ICT Systems	212
Unit title: Security of ICT Systems	216
Unit title: Security of ICT Systems	220
Unit title: Software Installation and Upgrade	224
Unit title: Software Installation and Upgrade	228
Unit title: Software Installation and Upgrade	230
Unit title: System Management	232
Unit title: System Management	234
Unit title: System Operation	236
Unit title: ICT System Operation	240
Unit title: System Operation	244
Unit title: Technical Advice and Guidance	248
Unit title: Technical Advice and Guidance	252
Unit title: Technical Advice and Guidance	256
Unit title: Testing ICT Systems	260
Unit title: Testing ICT Systems	264
Unit title: Testing ICT Systems	270
Unit title: User Profile Administration	276
Unit title: User Profile Administration	278
Unit title: Using and Managing Bowman Systems for Advanced Signallers	282
Unit title: Designing and Developing a Website	288
Unit title: Database Software	292
Unit title: Database Software	296
Unit title: Database Software	300
Unit title: Using Email	304
Unit title: Using Email	308
Unit title: Using Email	312
Unit title: Using the Internet	316
Unit title: Using the Internet	320
Unit title: Using the Internet	324
Unit title: Presentation Software	330

Unit title: Presentation Software	334
Unit title: Presentation Software	340
Unit title: Spreadsheet Software	346
Unit title: Spreadsheet Software	350
Unit title: Spreadsheet Software	354
Unit title: Website Software	358
Unit title: Website Software	362
Unit title: Website Software	366
Unit title: Word Processing Software	372
Unit title: Word Processing software	376
Unit title: Word Processing Software	380
Unit title: Project Management Software	386
Unit title: Project Management Software	390
Unit title: Project Management Software	394
Unit title: Imaging Software	398
Unit title: Imaging Software	402
Unit title: Imaging Software	406
Unit title: Copper Cable Jointing and Closure Techniques	410
Unit title: Fibre Telecommunications Techniques	414
Unit title: Managing Organisational Mail Servers	418
Unit title: Managing a Server Environment	422
Unit title: Implementing Systems Management Software	426
Unit title: Customer Care for IT and Telecoms Professionals	430
Unit title: Testing IT and Telecoms Systems	434
Unit title: IT and Telecoms System Management	438
Unit title: IT and Telecoms System Operation	442
Unit title: Planning, Implementation and Maintenance of IPTV Delivery Systems	446

**Further information and useful publications** **451**

**Professional development and training** **452**

**Contact us** **453**

**Annexe A: Quality assurance** **455**

Key principles of quality assurance 455

Quality assurance processes 455

**Annexe B: Centre certification and registration** **457**

What are the access arrangements and special considerations for the qualifications in this specification? 457

**Annexe C: Assessment strategy 459**

**Annexe D: Relationship between new and legacy units 463**



# Introducing Pearson NVQ/Competence-based qualifications

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## What are NVQ/Competence-based qualifications?

National Vocational Qualifications (NVQs) 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.

NVQs are based on the National Occupational Standards (NOS) for the appropriate sector. NOS define what employees, or potential employees, must be able to do and know, and how well they should undertake work tasks and work roles. At Level 2 and above, these qualifications are recognised as the competence component of Apprenticeship Frameworks. Qualifications at Level 1 can be used in Traineeships, which are stepping-stones to Apprenticeship qualifications. NVQs qualifications can also be delivered as stand-alone for those who wish to take a work-based qualification.

NVQs qualifications are outcomes-based with no fixed learning programme – allowing flexible delivery that meets the individual learner’s needs. They are suitable for those in employment or those who are studying at college and have a part-time job or access to a substantial work placement so that they are able to demonstrate the competencies that are required for work.

Most learners will work towards their qualification in the workplace or in settings that replicate the working environment as specified in the assessment requirements/strategy for the sector. Colleges, training centres and/or employers can offer these qualifications provided they have access to appropriate physical and human resources.

## Sizes of NVQ/Competence-based qualifications

For all regulated qualifications, we specify a total number of hours that learners are expected to undertake in order to complete and show achievement for the qualification – this is the Total Qualification Time (TQT). The TQT value indicates the size of a qualification.

Within the TQT, we identify the number of Guided Learning Hours (GLH) that a centre delivering the qualification needs to provide. Guided learning means activities that directly or immediately involve tutors and assessors in teaching, supervising, and invigilating learners, for example lectures, tutorials, online instruction and supervised study.

As well as guided learning, there may be other required learning that is directed by tutors or assessors. This includes, for example, private study, preparation for assessment and undertaking assessment when not under supervision, such as preparatory reading, revision and independent research.

As well as TQT and GLH, qualifications can also have a credit value – equal to one tenth of TQT, rounded to the nearest whole number.

TQT and credit values are assigned after consultation with users of the qualifications.

NVQ/Competence-based qualifications are available in the following sizes:

- Award – a qualification with a TQT value of 120 or less (equivalent to a range of 1–12 credits)
- Certificate – a qualification with a TQT value in the range of 121–369 (equivalent to a range of 13–36 credits)
- Diploma – a qualification with a TQT value of 370 or more (equivalent to 37 credits and above).

## Qualification titles covered by this specification

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This specification gives you the information you need to offer the Pearson BTEC Diplomas in Professional Competence for IT and Telecoms Professionals.

<b>Qualification title</b>	<b>Qualification Number (QN)</b>	<b>Regulation start date</b>
Pearson BTEC Level 2 Diploma in Professional Competence for IT and Telecoms Professionals	<b>501/1290/9</b>	01/09/2010
Pearson BTEC Level 3 Diploma in Professional Competence for IT and Telecoms Professionals	<b>501/1291/0</b>	01/09/2010
Pearson BTEC Level 4 Diploma in Professional Competence for IT and Telecoms Professionals	<b>501/1292/2</b>	01/09/2010

Qualifications eligible and funded for post-16-year-olds can be found on the funding Hub. The Skills Funding Agency also publishes a funding catalogue that lists the qualifications available for 19+ funding.

You should use the Qualification Number (QN), when you wish to seek public funding for your learners. Each unit within a qualification will also have a unique reference number, which is listed in this specification.

The qualification title and unit reference numbers will appear on the learners' final certification document. Learners need to be made aware of this when they are recruited by the centre and registered with Pearson.

# Key features of the Professional Competence for IT and Telecoms Professionals qualifications

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These qualifications:

- are nationally recognised
- are based on the National Occupational Standards (NOS) for IT and Telecoms Professionals. The NOS assessment requirements/strategy and qualification structure are owned by e-skills UK. The e-skills UK NOS detail the range of discrete areas of competence needed to describe the diverse job roles in the IT and Telecoms industries, and IT professional jobs in other sectors. The e-skills UK NOS also include the discrete areas of competence needed by IT users in all sectors of industry. They have been developed in consultation with employers, and are articulated and maintained by e-skills UK on behalf of industry. NOS provide a common industry-recognised reference framework that can be used for a variety of training and development purposes, for example writing and reviewing job descriptions, assessing staff or developing training programmes such as apprenticeships. NOS also underpin vocational qualifications – i.e. National Vocational Qualifications (NVQs) in England and Wales and the Scottish Vocational Qualifications (SVQs) in Scotland.

The Pearson BTEC Professional Competence for IT and Telecoms Professionals suite of qualifications has been approved as the components required for the IT apprenticeship framework.

## What is the purpose of these qualifications?

These qualifications are 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.

## Who are these qualifications for?

These qualifications are for all learners aged 14 -19 and above who are capable of reaching the required standards.

Pearson's policy is that the qualifications should:

- be free from any barriers that restrict access and progression
- ensure equality of opportunity for all wishing to access the qualifications.

## Apprenticeship Framework Information

**Apprenticeship Framework Title at Level 2:** Intermediate Apprenticeship for IT, Software, Web & Telecoms Professionals

**Framework ID:** FR00113

**Date this framework is due to be reviewed:** 31/10/2013

### Intermediate Apprenticeship (Level 2)

This framework requires a minimum of 75 credits.

Outcomes	Qualifications	Details
Competence Element Minimum 48 credits, of which 29 credits must be at Level 2 or above.	Pearson BTEC Level 2 Diploma in Professional Competence for IT and Telecoms Professionals (48 credits)	<b>Mandatory units (9 credits)</b> Personal Effectiveness Level 2 Health and Safety Level 1
		<b>Optional units – a minimum of 39 credits</b> Includes new and existing NOS-based units and vendor units
		Restricted optional units – <b>up to a maximum of 12 credits</b> Includes IT User options
Knowledge Element Minimum 12 credits	Pearson BTEC Level 2 Certificate in ICT Systems and Principles (13 credits) Pearson BTEC Level 2 Extended Certificate in IT (30 credits)	Includes e-Skills UK shared units No mandatory units specified by e-Skills UK
Transferable Skills 15 credits	Functional Maths Level 1/Key Skills Application of Number Level 1 Functional English Level 1/Key Skills Literacy Level 1 Functional ICT Level 1/Key Skills ICT level 1 (15 credits)	Apprentices with appropriate GCSEs in Maths, English and ICT grade A*-C will not need to complete Functional Skills/Key Skills For further details see e-Skills UK framework document at: <a href="http://www.apprenticeshipframeworksonline.semta.org.uk/frameworkslibrary/index.cfm?id=FR00113">http://www.apprenticeshipframeworksonline.semta.org.uk/frameworkslibrary/index.cfm?id=FR00113</a>
Personal Learning & Thinking Skills	Mapped to Competence qualification	The six Personal Learning & Thinking Skills have been mapped into the Develop Own Effectiveness and Professionalism unit at Level 2

## Apprenticeship Framework Information

**Apprenticeship Framework Title at Level 3:** Advanced Apprenticeship for IT, Software, Web & Telecoms Professionals

**Framework ID:** FR00113

**Date this framework is due to be reviewed:** 31/10/2013

### Advanced Apprenticeship (Level 3)

This framework requires a minimum of 111 credits.

Outcomes	Qualifications	Details
Competence Element Minimum 72 credits, of which 43 must be at Level 3 or above.	Pearson BTEC Level 3 Diploma in Professional Competence for IT and Telecoms Professionals (72 credits)	<b>Mandatory units (12 credits)</b> Personal Effectiveness Level 3 Health and Safety Level 1
		<b>Optional units – a minimum of 60 credits</b> Includes new and existing NOS-based units, and vendor units
		Restricted optional units – <b>up to a maximum of 24 credits</b> Includes IT User options
Knowledge Element Minimum 24 credits	Pearson BTEC Level 3 Certificate (24 credits) or Diploma (37 credits) in ICT Systems and Principles  Pearson BTEC Level 3 Subsidiary Diploma in IT (60 credits)	Includes e-Skills UK shared units No mandatory units specified by e-Skills UK
Transferable Skills 15 credits	Functional Maths Level 2/ Key Skills Application of Number Level 2  Functional English Level 2/ Key Skills Literacy Level 2  Functional ICT Level 2/ Key Skills ICT level 2  (15 credits)	Apprentices with appropriate GCSEs in Maths, English and ICT grade A*-C will not need to complete Functional Skills/Key Skills  For further details see e-Skills UK framework document at: <a href="http://www.apprenticeshipframeworksonline.semta.org.uk/frameworkslibrary/index.cfm?id=FR00113">http://www.apprenticeshipframeworksonline.semta.org.uk/frameworkslibrary/index.cfm?id=FR00113</a>
Personal Learning & Thinking Skills	Mapped to Competence qualification	The six Personal Learning & Thinking Skills have been mapped into the Develop Own Effectiveness and Professionalism unit at Level 3

## Apprenticeship Framework Information

**Apprenticeship Framework Title at Level 4:** Higher Apprenticeship for IT, Software, Web & Telecoms Professionals

**Framework ID:**FR00113

**Date this framework is due to be reviewed:** 31/10/2013

### Higher Apprenticeship (Level 4)

This framework requires a minimum of 215 credits.

Outcomes	Qualifications	Details
Competence Element  Minimum of 80 Credits, of which 48 must be at Level 4 or above.	Pearson BTEC Level 4 Diploma in Professional Competence for IT and Telecoms Professionals	<b>Mandatory units (15 credits)</b> Personal Effectiveness Level 4 Health and Safety Level 1
		<b>Optional units – a minimum of 65 credits</b> Includes new and existing NOS-based units, and vendor units
		Restricted optional units – <b>up to a maximum of 24 credits</b> Includes IT User options
Knowledge Element  Minimum 120 credits	Appropriate Foundation Degree in IT, Computing or Telecoms  Pearson BTEC Level 4 Higher National Certificate (120 credits) or Diploma (240 credits) in Computing and Systems Development	Includes new e-Skills UK shared units  No mandatory units specified by e-Skills UK
Transferable Skills  15 credits	Functional Maths Level 2/Key Skills Application of Number Level 2  Functional English Level 2/Key Skills Literacy Level 2  Functional ICT Level 2/Key Skills ICT level 2  (15 credits)	Apprentices with appropriate GCSEs in Maths, English and ICT grade A*-C will not need to complete Functional Skills/Key Skills  For further details see e-Skills UK framework document at:  <a href="http://www.apprenticeshipframeworksonline.semta.org.uk/frameworkslibrary/index.cfm?id=FR00113">http://www.apprenticeshipframeworksonline.semta.org.uk/frameworkslibrary/index.cfm?id=FR00113</a>
Personal Learning & Thinking Skills	Mapped to Competence qualification	The six Personal Learning & Thinking Skills have been mapped into the Develop Own Effectiveness and Professionalism unit at Level 4

## Delivery and assessment of employee rights and responsibilities

To achieve the ERR national outcomes the apprentice must demonstrate that he/she:

1. Knows and understands the range of employer and employee statutory rights and responsibilities under Employment Law. This should cover the apprentice's rights and responsibilities under the Employment Rights Act 1996, Equality Act 2010 and Health & Safety legislation, together with the responsibilities and duties of employers;
2. Knows and understands the procedures and documentation in their organisation which recognise and protect their relationship with their employer. Health & Safety and Equality & Diversity training must be an integral part of the apprentice's learning programme;
3. Knows and understands the range of sources of information and advice available to them on their employment rights and responsibilities. Details of Access to Work and Additional Learning Support must be included in the programme;
4. Understands the role played by their occupation within their organisation and industry;
5. Has an informed view of the types of career pathways that are open to them;
6. Knows the types of representative bodies and understands their relevance to their skill, trade or occupation, and their main roles and responsibilities;
7. Knows where and how to get information and advice on their industry, occupation, training and career;
8. Can describe and work within their organisation's principles of conduct and codes of practice;
9. Recognises and can form a view on issues of public concern that affect their organisation and industry.

The Employee Rights & Responsibilities must be formally assessed and verified through:

Completing and assessing the Employment Rights and Responsibilities Portfolio, available at [www.e-Skills.com/apprenticeships](http://www.e-Skills.com/apprenticeships) The portfolio must then be signed and submitted to e-Skills UK for approval.

## **What are the benefits of these qualifications to the learner and employer?**

Professional Competence qualifications give learners the opportunity to:

- engage in learning which is relevant to them and will provide opportunities to develop a range of skills and techniques, personal skills and attributes essential for successful performance in working life
- gain knowledge, understanding and skills they need to prepare for employment
- gain a nationally recognised vocationally specific qualification to enter employment in the IT sector or to progress to higher education vocational qualifications
- develop functional skills and personal learning and thinking skills essential for successful performance in working life
- certificate smaller blocks of learning which are designed to motivate them and encourage widening participation in education and training.

## **What are the potential job roles for those working towards these qualifications?**

- Business Analyst
- Computer Games Designer
- Computer Games Technical Support person
- Computer Hardware Engineer
- Computer Service Technician
- internet/Web Professional
- IT Product Developer
- IT Technical Sales Specialist
- IT Trainer
- Telecommunications Technician

## **What progression opportunities are available to learners who achieve these qualifications?**

At Level 2 learners could progress to employment in the IT and Telecoms sector or to higher education vocational qualifications such as the Pearson BTEC Level 3 Diploma in IT.

At Level 3 learners could progress to employment in the IT sector or to higher education vocational qualifications such as the Pearson BTEC Level 4 HNC Diploma in Computing and Systems Development.

At Level 4 learners could progress to employment in the IT sector or to higher education vocational qualifications such as the Pearson BTEC Level 5 HND Diploma in Computing and Systems Development.

# What are the qualification structures for the Pearson BTEC Diplomas in Professional Competence for IT and Telecoms Professionals?

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Individual units can be found in the Units section. The level and credit value are given on the first page of each unit.

All diplomas consist of two mandatory units, with the remaining units being selected from two optional groups. One of the optional groups is restricted to a limited number of credits.

How are the qualifications graded and assessed?

The overall grade for each qualification is a 'pass'. The learner must achieve all the required units within the specified qualification structure.

To pass a unit the learner must:

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

The qualifications are designed to be assessed:

- in the workplace or
- in conditions resembling the workplace, as specified in the **assessment methodology** section of the unit
- as part of a training programme.

## Assessment strategy

The assessment strategy for these qualifications has been included in *Annexe C*. 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.

Evidence of competence may come from:

- **current practice** where evidence is generated from a current job role
- a **programme of development** where evidence comes from assessment opportunities built into a learning/training programme whether at or away from the workplace
- the Recognition of Prior Learning (RPL) where a learner can demonstrate that they can meet the assessment criteria within a unit through knowledge, understanding or skills they already possess without undertaking a course of development. They must submit sufficient, authentic and valid evidence for assessment. Evidence submitted based on RPL should provide confidence that the same level of skill/understanding/knowledge exists at the time of claim as existed at the time the evidence was produced. RPL is acceptable for accrediting a unit, several units, or a whole qualification. Further guidance is available in the policy document Recognition of Prior Learning Policy and Process, available on our website at [qualifications.pearson.com](http://qualifications.pearson.com).
- a **combination** of these.
- It is important that the evidence is:

<b>Valid</b>	relevant to the standards for which competence is claimed
<b>Authentic</b>	produced by the learner
<b>Current</b>	sufficiently recent to create confidence that the same skill, understanding or knowledge persist at the time of the claim
<b>Reliable</b>	indicates that the learner can consistently perform at this level
<b>Sufficient</b>	fully meets the requirements of the standards.

## Types of evidence

To successfully achieve a unit the learner must gather evidence which shows that they have met the required standard in the assessment criteria. Evidence can take a variety of different forms including the following examples:

- direct observation of the learner's performance by their assessor
- outcomes from oral or written questioning
- products of the learner's work
- personal statements and/or reflective accounts
- outcomes from simulation, where permitted by the assessment strategy
- professional discussion
- assignment, project/case studies
- authentic statements/witness testimony
- expert witness testimony
- reflective accounts
- evidence of Recognition of Prior Learning.

Learners can use one piece of evidence to prove their knowledge, skills and understanding across different assessment criteria and/or across different units. It is, therefore, not necessary for learners to have each assessment criterion assessed separately. Learners should be encouraged to reference the assessment criteria to which the evidence relates.

Evidence must be made available to the assessor, internal verifier and Pearson standards verifier. A range of recording documents is available on our website [qualifications.pearson.com](http://qualifications.pearson.com). Alternatively, centres may develop their own.

# Centre recognition and approval

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## Centre recognition

Centres that have not previously offered Pearson vocational qualifications need to apply for and be granted centre recognition as part of the process for approval to offer individual qualifications. New centres must complete both a centre recognition approval application and a qualification approval application.

Existing centres will be given 'automatic approval' for a new qualification if they are already approved for a qualification that is being replaced by the new qualification and the conditions for automatic approval are met. Centres already holding Pearson approval are able to gain qualification approval for a different level or different sector via Edexcel online.

## Approvals agreement

All centres are required to enter into an approvals agreement which is a formal commitment by the head or principal of a centre to meet all the requirements of the specification and any linked codes or regulations. Pearson will act to protect the integrity of the awarding of qualifications, if centres do not comply with the agreement. This could result in the suspension of certification or withdrawal of approval.

Guidance on seeking approval to deliver Pearson vocational qualifications is available at [qualifications.pearson.com](http://qualifications.pearson.com).

## Quality assurance

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Detailed information on Pearson's quality assurance processes is given in *Annexe A*.

## What resources are required to deliver these qualifications?

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Each qualification is designed to support learners working in the IT and Telecoms sector. Physical resources need to support the delivery of the qualifications and the assessment of the learning outcomes and must be of industry standard. Centres must meet any specific resource requirements outlined in *Annexe C: Assessment strategy*. Staff assessing the learner must meet the requirements within the overarching assessment strategy for the sector.

# Unit format

Each unit in this specification contains the following sections.

<b>Unit title:</b>					This is the formal title of the unit that will appear on the learner's certificate.
<b>Unit reference number:</b>					This code is a unique reference number for the unit.
<b>Level:</b>					All units and qualifications have a level assigned to them. The level assigned is informed by the level descriptors by Ofqual, the qualifications regulator.
<b>Credit value:</b>					All units have a credit value. The minimum credit value is one, and credits can only be awarded in whole numbers. Learners will be awarded credits when they achieve the unit.
<b>Guided learning hours:</b>					Guided Learning Hours (GLH) is the number of hours that a centre delivering the qualification needs to provide. Guided learning means activities that directly or immediately involve tutors and assessors in teaching, supervising, and invigilating learners, for example lectures, tutorials, online instruction and supervised study.
<b>Unit summary:</b>					This provides a summary of the purpose of the unit.
<b>Assessment requirements/evidence requirements:</b>					The assessment/evidence requirements are determined by the SSC. Learners must provide evidence for each of the requirements stated in this section.
<b>Assessment methodology:</b>					This provides a summary of the assessment methodology to be used for the unit.
<b>Learning outcomes:</b>	<b>Assessment criteria:</b>	<b>Evidence type:</b>	<b>Portfolio reference:</b>	<b>Date:</b>	
			The learner should use this box to indicate where the evidence can be obtained eg portfolio page number.	The learner should give the date when the evidence has been provided.	
Learning outcomes state exactly what a learner should know, understand or be able to do as a result of completing a unit.		The assessment criteria of a unit specify the standard a learner is expected to meet to demonstrate that a learning outcome, or a set of learning outcomes, has been achieved.		Learners must reference the type of evidence they have and where it is available for quality assurance purposes. The learner can enter the relevant key and a reference. Alternatively, the learner and/or centre can devise their own referencing system.	

### **Optional vendor units**

Please refer to our website ([qualifications.pearson.com](http://qualifications.pearson.com)) for a full and up-to-date list of included vendor units.

# Qualification Structures

## Pearson BTEC Level 2 Diploma in Professional Competence for IT and Telecoms Professionals

The Pearson BTEC Level 2 Diploma in Professional Competence for IT and Telecoms Professionals is a 48-credit and 360 guided learning hours (glh) qualification that consists of 2 mandatory units **plus** optional units (**at least 29 credits must be at Level 2 or above**).

The Total Qualification Time (TQT) for this qualification is 480.

### Qualification structure summary

The Pearson BTEC Level 2 Diploma in Professional Competence for IT and Telecoms Professionals consists of a minimum of 9 mandatory credits plus a minimum of 39 optional credits.

#### Mandatory units (Group A) – 9 credits

- Learners must achieve both units.

#### Optional units (Group B and Group C) – minimum 39 credits

**A minimum of 39 credits to be completed from the OPTIONAL UNITS, of which a maximum of 12 can be completed from the Restricted Options Group, GROUP C.**

**Note that learners may select all 39 credits from GROUP B.**

## Understanding the unit structure

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

Most of the unit titles at Level 1 are the same for Level 2, 3 and 4. 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 **1**03 Customer Care in ICT is a Level 1 unit,

Unit **2**01 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**.

<b>Pearson BTEC Level 2 Diploma in Professional Competence for IT and Telecoms Professionals</b>				
<b>Mandatory Group A</b>				
Achieve both units in this section				
<b>Unit</b>	<b>Title</b>	<b>Credit</b>	<b>Level</b>	<b>Unit reference</b>
101	Health and Safety in ICT	3	1	Y/500/7183
202	Develop Own Effectiveness and Professionalism	6	2	Y/601/3317
<b>OPTIONAL UNITS (GROUP B and GROUP C)</b>				
<b>A minimum of 39 credits to be completed from the OPTIONAL UNITS, of which a maximum of 12 can be completed from the Restricted Optional Group, GROUP C</b>				
<b>Note that learners may select all 39 credits from GROUP B.</b>				
<b>GROUP B</b>				
<b>CC - Customer Care</b>				
No more than one unit to be completed from this section				
<b>Unit</b>	<b>Title</b>	<b>Credit</b>	<b>Level</b>	<b>Unit reference</b>
103	Customer Care in ICT	6	1	T/500/7157
203	Customer Care in ICT	9	2	A/500/7158
303	Customer Care in ICT	12	3	F/500/7159
<b>IW - Interpersonal and Written Communication Skills</b>				
No more than one unit to be completed from this section				
104	Interpersonal and Written Communication	3	1	M/500/7206
204	Interpersonal and Written Communication	9	2	T/500/7207
304	Interpersonal and Written Communication	12	3	A/500/7208
<b>DA - Data Analysis and Data Structure Design</b>				
No more than one unit to be completed from this section				
205	Data Modelling	6	2	A/601/3200
305	Data Modelling	9	3	L/601/3203
405	Data Structures and Algorithms	15	4	R/601/3297

<b>FD - Technical Fault Diagnosis</b>				
No more than one unit to be completed from this section				
206	Technical Fault Diagnosis	9	2	T/601/3292
306	Technical Fault Diagnosis	12	3	A/601/3293
406	Technical Fault Diagnosis	15	4	L/500/7391
<b>HW - Working with ICT Hardware and Equipment</b>				
No more than one unit to be completed from this section				
107	Working with ICT Hardware and Equipment	6	1	H/500/7381
207	Working with ICT Hardware and Equipment	9	2	K/500/7382
307	Working with ICT Hardware and Equipment	12	3	M/500/7383
407	Working with ICT Hardware and Equipment	15	4	T/500/7384
<b>ID - Investigating and Defining Requirements</b>				
No more than one unit to be completed from this section				
208	Introduction to IT Systems Development	6	2	J/601/3247
308	Investigating and Defining Customer Requirements for ICT Systems	12	3	R/601/3249
408	Investigating and Defining Customer Requirements for ICT Systems	15	4	R/602/1772
<b>MD - Managing Software Development</b>				
309	Managing Software Development	12	3	T/500/6798
<b>CG - Computer Games Development</b>				
No more than one unit to be completed from this section				
210	Computer Games Development	4	2	A/601/3164
310	Computer Games Development	10	3	F/601/3165
<b>PP - Procedural Programming</b>				
No more than one unit to be completed from this section				
211	Creating a Procedural Computer Program	7	2	L/601/3167
311	Creating a Procedural Computer Program	12	3	R/601/3171
411	Designing and Developing Procedural Computer Programs	15	4	T/601/3311

<b>OO - Object-oriented Programming</b>				
No more than one unit to be completed from this section				
212	Creating an Object-oriented Computer Program	7	2	A/601/3181
312	Creating an Object-oriented Computer Program	12	3	L/601/3184
412	Designing and Developing Object-oriented Computer Programs	15	4	T/601/3308
<b>ED - Event-driven Programming</b>				
No more than one unit to be completed from this section				
213	Creating an Event-driven Computer Program	7	2	T/601/3177
313	Creating an Event-driven Computer Program	12	3	F/601/3179
413	Designing and Developing Event-driven Computer Programs	15	4	J/601/3300
<b>CA - Customer Apparatus and Line Installation</b>				
314	Customer Apparatus and Line Installation	22	3	A/501/5888
<b>PM - Project Management Software</b>				
No more than one unit to be completed from this section				
133	Project Management Software	3	1	K/502/4618
233	Project Management Software	4	2	M/502/4619
333	Project Management Software	5	3	H/502/4620
<b>QM - Quality Management of ICT Products and Services</b>				
315	Quality Management of ICT Products and Services	12	3	T/500/7210
<b>RS - Remote support for products and services</b>				
No more than one unit to be completed from this section				
116	Remote Support for Products or Services	6	1	R/500/7215
216	Remote Support for Products or Services	9	2	Y/500/7216
316	Remote Support for Products or Services	12	3	D/500/7217
416	Remote Support for Products or Services	15	4	A/602/1264
<b>SC - Security of ICT Systems</b>				
No more than one unit to be completed from this section				
117	Security of ICT Systems	3	1	K/500/7219
317	Security of ICT Systems	12	3	D/500/7220
417	Security of ICT Systems	15	4	H/500/7221

<b>SI - Software Installation and Upgrade</b>				
No more than one unit to be completed from this section				
118	Software Installation and Upgrade	6	1	D/500/7265
218	Software Installation and Upgrade	9	2	D/500/7329
318	Software Installation and Upgrade	12	3	R/500/7330
<b>SM - System Management</b>				
No more than one unit to be completed from this section				
219	System Management	6	2	Y/500/7331
319	System Management	12	3	D/500/7332
<b>SO - System Operation</b>				
No more than one unit to be completed from this section				
120	System Operation	6	1	H/500/7333
220	ICT System Operation	9	2	F/500/7338
320	System Operation	12	3	A/500/7340
<b>TA - Technical Advice and Guidance</b>				
No more than one unit to be completed from this section				
221	Technical Advice and Guidance	9	2	F/601/3506
321	Technical Advice and Guidance	12	3	J/601/3507
421	Technical Advice and Guidance	15	4	Y/500/7345
<b>TE - Testing ICT Systems</b>				
No more than one unit to be completed from this section				
122	Testing ICT Systems	6	1	T/500/7353
222	Testing ICT Systems	9	2	A/500/7354
322	Testing ICT Systems	12	3	F/500/7355
<b>UP - User Profile Administration</b>				
No more than one unit to be completed from this section				
223	User Profile Administration	6	2	H/500/7378
323	User Profile Administration	9	3	K/500/7379
<b>BOWMAN</b>				
<b>For military use only</b>				
324	Using and Managing Bowman Systems for Advanced Signallers	19	3	K/501/3912
<b>WD - Website Design</b>				
425	Designing and Developing a Website	15	4	L601/3315
<b>CF - Copper and Fibre units</b>				
236	Fibre Telecommunications Techniques	15	3	H/601/0663

**Vendor Units**

Please refer to our website ([qualifications.pearson.com](http://qualifications.pearson.com)) for a full and up-to-date list of included vendor units.

**Group C - Restricted Optional Units**

Learners may complete a maximum of 12 credits

**DB - Database Software**

No more than one unit to be completed from this section

126	Database Software	3	1	H/502/4553
226	Database Software	4	2	M/502/4555
326	Database Software	6	3	T/502/4556

**EM - Using Email**

No more than one unit to be completed from this section

127	Using Email	2	1	J/502/4299
227	Using Email	3	2	M/502/4300
327	Using Email	3	3	T/502/4301

**NT - Using the Internet**

No more than one unit to be completed from this section

128	Using the Internet	3	1	T/502/4296
228	Using the Internet	4	2	A/502/4297
328	Using the Internet	5	3	F/502/4298

**PS - Presentation Software**

No more than one unit to be completed from this section

129	Presentation Software	3	1	K/502/4621
229	Presentation Software	4	2	M/502/4622
329	Presentation Software	6	3	T/502/4623

**SS - Spreadsheet Software**

No more than one unit to be completed from this section

130	Spreadsheet Software	3	1	A/502/4624
230	Spreadsheet Software	4	2	F/502/4625
330	Spreadsheet Software	6	3	J/502/4626

<b>WB - Website Software</b>				
No more than one unit to be completed from this section				
131	Website Software	3	1	L/502/4630
231	Website Software	4	2	R/502/4631
331	Website Software	5	3	Y/502/4632
<b>WP - Word Processing Software</b>				
No more than one unit to be completed from this section				
132	Word Processing Software	3	1	L/502/4627
232	Word Processing Software	4	2	R/502/4628
332	Word Processing Software	6	3	Y/502/4629
<b>IS - Imaging Software</b>				
No more than one unit to be completed from this section				
134	Imaging Software	3	1	J/502/4612
234	Imaging Software	4	2	L/502/4613
334	Imaging Software	5	3	R/502/4614

## Pearson BTEC Level 3 Diploma in Professional Competence for IT and Telecoms Professionals

The Pearson BTEC Level 3 Diploma in Professional Competence for IT and Telecoms Professionals is a 72 credit and 540 guided learning hours (glh) qualification that consists of 2 mandatory units **plus** optional units (**at least 44 credits must be at Level 3 or above**).

The Total Qualification Time (TQT) for this qualification is 720.

### Qualification structure summary

The Pearson BTEC Level 3 Diploma in Professional Competence for IT and Telecoms Professionals consists of a minimum of 12 mandatory credits plus a minimum of 60 optional credits.

#### Mandatory units (Group A) – 12 credits

- Learners must achieve both units

#### Optional units (Group B and Group C) – minimum 60 credits

**A minimum of 60 credits to be completed from the OPTIONAL UNITS, of which a maximum of 24 can be completed from the Restricted Options Group, GROUP C**

**Note that learners may select all 60 credits from GROUP B.**

### Understanding the unit structure

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

Most of the unit titles at Level 1 are the same for Level 2, 3 and 4. 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 **301** 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**.

<b>Pearson BTEC Level 3 Diploma in Professional Competence for IT and Telecoms Professionals</b>				
<b>Mandatory Group A</b>				
Achieve both units in this section				
<b>Unit</b>	<b>Title</b>	<b>Credit</b>	<b>Level</b>	<b>Unit reference</b>
101	Health and Safety in ICT	3	1	Y/500/7183
302	Develop Own Effectiveness and Professionalism Level 3	9	3	D/503/5549
<b>OPTIONAL UNITS (GROUP B and GROUP C)</b>				
<b>A minimum of 60 credits to be completed from the OPTIONAL UNITS, of which a maximum of 24 can be completed from the Restricted Optional Group, GROUP C</b>				
<b>Note that learners may select all 60 credits from GROUP B.</b>				
<b>GROUP B</b>				
<b>CC - Customer Care</b>				
No more than one unit to be completed from this section				
<b>Unit</b>	<b>Title</b>	<b>Credit</b>	<b>Level</b>	<b>Unit reference</b>
103	Customer Care in ICT	6	1	T/500/7157
203	Customer Care in ICT	9	2	A/500/7158
303	Customer Care in ICT	12	3	F/500/7159
440	Customer Care for IT and Telecoms Professionals	12	4	H/504/5502
<b>IW - Interpersonal and Written Communication Skills</b>				
No more than one unit to be completed from this section				
104	Interpersonal and Written Communication	3	1	M/500/7206
204	Interpersonal and Written Communication	9	2	T/500/7207
304	Interpersonal and Written Communication	12	3	A/500/7208
<b>DA - Data Analysis and Data Structure Design</b>				
No more than one unit to be completed from this section				
205	Data Modelling	6	2	A/601/3200
305	Data Modelling	9	3	L/601/3203
405	Data Structures and Algorithms	15	4	R/601/3297

<b>FD - Technical Fault Diagnosis</b>				
No more than one unit to be completed from this section				
206	Technical Fault Diagnosis	9	2	T/601/3292
306	Technical Fault Diagnosis	12	3	A/601/3293
406	Technical Fault Diagnosis	15	4	L/500/7391
<b>HW - Working with ICT Hardware and Equipment</b>				
No more than one unit to be completed from this section				
107	Working with ICT Hardware and Equipment	6	1	H/500/7381
207	Working with ICT Hardware and Equipment	9	2	K/500/7382
307	Working with ICT Hardware and Equipment	12	3	M/500/7383
407	Working with ICT Hardware and Equipment	15	4	T/500/7384
<b>ID - Investigating and Defining Requirements</b>				
No more than one unit to be completed from this section				
208	Introduction to IT Systems Development	6	2	J/601/3247
308	Investigating and Defining Customer Requirements for ICT Systems	12	3	R/601/3249
408	Investigating and Defining Customer Requirements for ICT Systems	15	4	R/602/1772
<b>MD - Managing Software Development</b>				
309	Managing Software Development	12	3	T/500/6798
<b>CG - Computer Games Development</b>				
No more than one unit to be completed from this section				
210	Computer Games Development	4	2	A/601/3164
310	Computer Games Development	10	3	F/601/3165
<b>PP - Procedural Programming</b>				
No more than one unit to be completed from this section				
211	Creating a Procedural Computer Program	7	2	L/601/3167
311	Creating a Procedural Computer Program	12	3	R/601/3171
411	Designing and Developing Procedural Computer Programs	15	4	T/601/3311

<b>OO - Object-oriented Programming</b>				
No more than one unit to be completed from this section				
212	Creating an Object-oriented Computer Program	7	2	A/601/3181
312	Creating an Object-oriented Computer Program	12	3	L/601/3184
412	Creating an Object-oriented Computer Program	15	4	T/601/3308
<b>ED - Event-driven Programming</b>				
No more than one unit to be completed from this section				
213	Creating an Event-driven Computer Program	7	2	T/601/3177
313	Creating an Event-driven Computer Program	12	3	F/601/3179
413	Designing and Developing Event-driven Computer Programs	15	4	J/601/3300
<b>CA - Customer Apparatus and Line Installation</b>				
314	Customer Apparatus and Line Installation	22	3	A/501/5888
<b>PM - Project Management Software</b>				
No more than one unit to be completed from this section				
133	Project Management Software	3	1	K/502/4618
233	Project Management Software	4	2	M/502/4619
333	Project Management Software	5	3	H/502/4620
<b>QM - Quality Management of ICT Products and Services</b>				
315	Quality Management of ICT Products and Services	12	3	T/500/7210
<b>RS - Remote support for products and services</b>				
No more than one unit to be completed from this section				
116	Remote Support for Products or Services	6	1	R/500/7215
216	Remote Support for Products or Services	9	2	Y/500/7216
316	Remote Support for Products or Services	12	3	D/500/7217
416	Remote Support for Products or Services	15	4	A/602/1264
<b>SC - Security of ICT Systems</b>				
No more than one unit to be completed from this section				
117	Security of ICT Systems	3	1	K/500/7219
317	Security of ICT Systems	12	3	D/500/7220
417	Security of ICT Systems	15	4	H/500/7221

<b>SG – Server Group</b>				
Up to 30 credits may be completed from this section				
337	Managing Organisational Mail Servers	10	3	H/504/6293
338	Managing a Server Environment	10	3	D/504/6289
339	Implementing Systems Management Software	10	3	T/504/6282
<b>SI - Software Installation and Upgrade</b>				
No more than one unit to be completed from this section				
118	Software Installation and Upgrade	6	1	D/500/7265
218	Software Installation and Upgrade	9	2	D/500/7329
318	Software Installation and Upgrade	12	3	R/500/7330
<b>SM - System Management</b>				
No more than one unit to be completed from this section				
219	System Management	6	2	Y/500/7331
319	System Management	12	3	D/500/7332
442	IT and Telecoms System Management	15	4	M/504/5504
<b>SO - System Operation</b>				
No more than one unit to be completed from this section				
120	System Operation	6	1	H/500/7333
220	ICT System Operation	9	2	F/500/7338
320	System Operation	12	3	A/500/7340
443	IT and Telecoms System Operation	15	4	R/504/5513
<b>TA - Technical Advice and Guidance</b>				
No more than one unit to be completed from this section				
221	Technical Advice and Guidance	9	2	F/601/3506
321	Technical Advice and Guidance	12	3	J/601/3507
421	Technical Advice and Guidance	15	3	Y/500/7345
<b>TE - Testing ICT Systems</b>				
No more than one unit to be completed from this section				
122	Testing ICT Systems	6	1	T/500/7353
222	Testing ICT Systems	9	2	A/500/7354
322	Testing ICT Systems	12	3	F/500/7355
441	Testing IT and Telecoms Systems	15	4	K/504/5503
<b>UP - User Profile Administration</b>				
No more than one unit to be completed from this section				
223	User Profile Administration	6	2	H/500/7378
323	User Profile Administration	9	3	K/500/7379

<b>BOWMAN</b>				
<b>For military use only</b>				
324	Using and Managing Bowman Systems for Advanced Signallers	19	3	K/501/3912
<b>WD – Website Design</b>				
425	Designing and Developing a Website	15	4	L/601/3315
<b>Vendor Units</b>				
Please refer to our website ( <a href="http://qualifications.pearson.com">qualifications.pearson.com</a> ) for a full and up-to-date list of included vendor units.				
<b>Group C - Restricted optional units</b>				
Learners may complete a maximum of 24 credits				
<b>DB - Database Software</b>				
No more than one unit to be completed from this section				
126	Database Software	3	1	H/502/4553
226	Database Software	4	2	M/502/4555
326	Database Software	6	3	T/502/4556
<b>EM - Using Email</b>				
No more than one unit to be completed from this section				
127	Using Email	2	1	J/502/4299
227	Using Email	3	2	M/502/4300
327	Using Email	3	3	T/502/4301
<b>NT - Using the Internet</b>				
No more than one unit to be completed from this section				
128	Using the Internet	3	1	T/502/4296
228	Using the Internet	4	2	A/502/4297
328	Using the Internet	5	3	F/502/4298
<b>PS - Presentation Software</b>				
No more than one unit to be completed from this section				
129	Presentation software	3	1	K/502/4621
229	Presentation software	4	2	M/502/4622
329	Presentation software	6	3	T/502/4623
<b>SS - Spreadsheet Software</b>				
No more than one unit to be completed from this section				
130	Spreadsheet Software	3	1	A/502/4624
230	Spreadsheet Software	4	2	F/502/4625
330	Spreadsheet Software	6	3	J/502/4626

<b>WB - Website Software</b>				
No more than one unit to be completed from this section				
131	Website Software	3	1	L/502/4630
231	Website Software	4	2	R/502/4631
331	Website Software	5	3	Y/502/4632
<b>WP - Word Processing Software</b>				
No more than one unit to be completed from this section				
132	Word Processing Software	3	1	L/502/4627
232	Word Processing Software	4	2	R/502/4628
332	Word Processing Software	6	3	Y/502/4629
<b>IS - Imaging Software</b>				
No more than one unit to be completed from this section				
134	Imaging Software	3	1	J/502/4612
234	Imaging Software	4	2	L/502/4613
334	Imaging Software	5	3	R/502/4614
<b>CF - Copper and Fibre units</b>				
335	Copper Cable Jointing and Closure Techniques	23	3	L/601/0656
336	Fibre Telecommunications Techniques	15	3	H/601/0663

## Pearson BTEC Level 4 Diploma in Professional Competence for IT and Telecoms Professionals

The Pearson BTEC Level 4 Diploma in Professional Competence for IT and Telecoms Professionals is an 80 credit and 600 guided learning hours (glh) qualification that consists of 2 mandatory units **plus** optional units (**at least 48 credits must be at Level 4 or above**).

The Total Qualification Time (TQT) for this qualification is 800.

### Qualification structure summary

The Pearson BTEC Level 4 Diploma in Professional Competence for IT and Telecoms Professionals consists of a minimum of 15 mandatory credits plus a minimum of 65 optional credits.

#### Mandatory units (Group A) – 15 credits

- Learners must achieve both units

#### Optional Units (Group B and Group C) – min 65 credits

**A minimum of 65 credits to be completed from the OPTIONAL UNITS, of which a maximum of 24 can be completed from the Restricted Options Group, GROUP C**

**Note that learners may select all 65 credits from group B.**

## Understanding the unit structure

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

Most of the unit titles at Level 1 are the same for Level 2, 3 and 4. 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 **1**03 Customer Care in ICT is a Level 1 unit.

Unit **2**01 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**.

<b>Pearson BTEC Level 4 Diploma in Professional Competence for IT and Telecoms Professionals</b>				
<b>Mandatory Group A</b>				
<b>Achieve both units in this section</b>				
<b>Unit</b>	<b>Title</b>	<b>Credit</b>	<b>Level</b>	<b>Unit reference</b>
101	Health and Safety in ICT	3	1	Y/500/7183
402	Develop Own Effectiveness and Professionalism Level 4	12	4	K/601/3502
<b>OPTIONAL UNITS (GROUP B and GROUP C)</b>				
<b>A minimum of 65 credits to be completed from the OPTIONAL UNITS, of which a maximum of 24 can be completed from the Restricted Optional Group, GROUP C</b>				
<b>Note that learners may select all 65 credits from GROUP B.</b>				
<b>GROUP B</b>				
<b>CC – Customer Care</b>				
No more than one unit to be completed from this section				
<b>Unit</b>	<b>Title</b>	<b>Credit</b>	<b>Level</b>	<b>Unit reference</b>
103	Customer Care in ICT	6	1	T/500/7157
203	Customer Care in ICT	9	2	A/500/7158
303	Customer Care in ICT	12	3	F/500/7159
440	Customer Care for IT and Telecoms Professionals	12	4	H/504/5502
<b>IW - Interpersonal and Written Communication Skills</b>				
No more than one unit to be completed from this section				
104	Interpersonal and Written Communication	3	1	M/500/7206
204	Interpersonal and Written Communication	9	2	T/500/7207
304	Interpersonal and Written Communication	12	3	A/500/7208
<b>DA - Data Analysis and Data Structure Design</b>				
No more than one unit to be completed from this section				
205	Data Modelling	6	2	A/601/3200
305	Data Modelling	9	3	L/601/3203
405	Data Structures and Algorithms	15	4	R/601/3297

<b>FD - Technical Fault Diagnosis</b>				
No more than one unit to be completed from this section				
206	Technical Fault Diagnosis	9	2	T/601/3292
306	Technical Fault Diagnosis	12	3	A/601/3293
406	Technical Fault Diagnosis	15	4	L/500/7391
<b>HW - Working with ICT Hardware and Equipment</b>				
No more than one unit to be completed from this section				
107	Working with ICT Hardware and Equipment	6	1	H/500/7381
207	Working with ICT Hardware and Equipment	9	2	K/500/7382
307	Working with ICT Hardware and Equipment	12	3	M/500/7383
407	Working with ICT Hardware and Equipment	15	4	T/500/7384
<b>ID - Investigating and Defining Requirements</b>				
No more than one unit to be completed from this section				
208	Introduction to IT Systems Development	6	2	J/601/3247
308	Investigating and Defining Customer Requirements for ICT Systems	12	3	R/601/3249
408	Investigating and Defining Customer Requirements for ICT Systems	15	4	R/602/1772
<b>MD - Managing Software Development</b>				
309	Managing Software Development	12	3	T/500/6798
<b>CG - Computer Games Development</b>				
No more than one unit to be completed from this section				
210	Computer Games Development	4	2	A/601/3164
310	Computer Games Development	10	3	F/601/3165
<b>PP - Procedural Programming</b>				
No more than one unit to be completed from this section				
211	Creating a Procedural Computer Program	7	2	L/601/3167
311	Creating a Procedural Computer Program	12	3	R/601/3171
411	Designing and Developing Procedural Computer Programs	15	4	T/601/3311

<b>OO - Object-oriented Programming</b>				
No more than one unit to be completed from this section				
212	Creating an Object-oriented Computer Program	7	2	A/601/3181
312	Creating an Object-oriented Computer Program	12	3	L/601/3184
412	Designing and Developing Object-oriented Computer Programs	15	4	T/601/3308
<b>ED - Event-driven Programming</b>				
No more than one unit to be completed from this section				
213	Creating an Event-driven Computer Program	7	2	T/601/3177
313	Creating an Event-driven Computer Program	12	3	F/601/3179
413	Designing and Developing Event-driven Computer Programs	15	4	J/601/3300
<b>CA - Customer Apparatus and Line Installation</b>				
314	Customer Apparatus and Line Installation	22	3	A/501/5888
<b>QM - Quality Management of ICT Products and Services</b>				
315	Quality Management of ICT Products and Services	12	3	T/500/7210
<b>RS - Remote Support for Products and Services</b>				
No more than one unit to be completed from this section				
116	Remote Support for Products or Services	6	1	R/500/7215
216	Remote Support for Products or Services	9	2	Y/500/7216
316	Remote Support for Products or Services	12	3	D/500/7217
416	Remote Support for Products or Services	15	4	A/602/1264
<b>SC - Security of ICT Systems</b>				
No more than one unit to be completed from this section				
117	Security of ICT Systems	3	1	K/500/7219
317	Security of ICT Systems	12	3	D/500/7220
417	Security of ICT Systems	15	4	H/500/7221

<b>SI – Software Installation and Upgrade</b>				
No more than one unit to be completed from this section				
118	Software Installation and Upgrade	6	1	D/500/7265
218	Software Installation and Upgrade	9	2	D/500/7329
318	Software Installation and Upgrade	12	3	R/500/7330
<b>SM – System Management</b>				
No more than one unit to be completed from this section				
219	System Management	6	2	Y/500/7331
319	System Management	12	3	D/500/7332
442	IT and Telecoms System Management	15	4	M/504/5504
<b>SO – System Operation</b>				
No more than one unit to be completed from this section				
120	System Operation	6	1	H/500/7333
220	ICT System Operation	9	2	F/500/7338
320	System Operation	12	3	A/500/7340
443	IT and Telecoms System Operation	15	4	R/504/5513
<b>TA - Technical Advice and Guidance</b>				
No more than one unit to be completed from this section				
221	Technical Advice and Guidance	9	2	F/601/3506
321	Technical Advice and Guidance	12	3	J/601/3507
421	Technical Advice and Guidance	15	3	Y/500/7345
<b>TE - Testing ICT Systems</b>				
No more than one unit to be completed from this section				
122	Testing ICT Systems	6	1	T/500/7353
222	Testing ICT Systems	9	2	A/500/7354
322	Testing ICT Systems	12	3	F/500/7355
441	Testing IT and Telecoms Systems	15	4	K/504/5503
<b>UP - User Profile Administration</b>				
No more than one unit to be completed from this section				
223	User Profile Administration	6	2	H/500/7378
323	User Profile Administration	9	3	K/500/7379

<b>WD – Website Design</b>				
425	Designing and Developing a Website	15	4	L/601/3315
<b>IP – IPTV Delivery Systems</b>				
444	Planning, Implementation and Maintenance of IPTV Delivery Systems	17	4	T/506/4054
<b>BOWMAN</b>				
<b>For military use only</b>				
324	Using and Managing Bowman Systems for Advanced Signallers	19	3	K/501/3912
<b>Vendor Units</b>				
Please refer to our website ( <a href="http://qualifications.pearson.com">qualifications.pearson.com</a> ) for a full and up-to-date list of included vendor units.				
<b>Group C - Restricted optional units</b>				
Learners may complete a maximum of 24 credits				
<b>DB - Database Software</b>				
No more than one unit to be completed from this section				
126	Database Software	3	1	H/502/4553
226	Database Software	4	2	M/502/4555
326	Database Software	6	3	T/502/4556
<b>EM - Using Email</b>				
No more than one unit to be completed from this section				
127	Using Email	2	1	J/502/4299
227	Using Email	3	2	M/502/4300
327	Using Email	3	3	T/502/4301
<b>NT - Using the Internet</b>				
No more than one unit to be completed from this section				
128	Using the Internet	3	1	T/502/4296
228	Using the Internet	4	2	A/502/4297
328	Using the Internet	5	3	F/502/4298
<b>PS - Presentation Software</b>				
No more than one unit to be completed from this section				
129	Presentation Software	3	1	K/502/4621
229	Presentation Software	4	2	M/502/4622
329	Presentation Software	6	3	T/502/4623

<b>SS - Spreadsheet Software</b>				
No more than one unit to be completed from this section				
130	Spreadsheet Software	3	1	A/502/4624
230	Spreadsheet Software	4	2	F/502/4625
330	Spreadsheet Software	6	3	J/502/4626
<b>WB - Website Software</b>				
No more than one unit to be completed from this section				
131	Website Software	3	1	L/502/4630
231	Website Software	4	2	R/502/4631
331	Website Software	5	3	Y/502/4632
<b>WP - Word Processing Software</b>				
No more than one unit to be completed from this section				
132	Word Processing Software	3	1	L/502/4627
232	Word Processing Software	4	2	R/502/4628
332	Word Processing Software	6	3	Y/502/4629
<b>PM - Project Management Software</b>				
No more than one unit to be completed from this section				
133	Project Management Software	3	1	K/502/4618
233	Project Management Software	4	2	M/502/4619
333	Project Management Software	5	3	H/502/4620
<b>IS - Imaging Software</b>				
No more than one unit to be completed from this section				
134	Imaging Software	3	1	J/502/4612
234	Imaging Software	4	2	L/502/4613
334	Imaging Software	5	3	R/502/4614
<b>CF - Copper and Fibre units</b>				
335	Copper Cable Jointing and Closure Techniques	23	3	L/601/0656
336	Fibre Telecommunications Techniques	15	3	H/601/0663

# Units



<b>Unit title:</b>	<b>Health and Safety in ICT</b>
<b>Unit code:</b>	101
<b>Unit reference number:</b>	Y/500/7183
<b>Level:</b>	1
<b>Credit value:</b>	3
<b>Guided learning hours:</b>	15

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### **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

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

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**Unit title:** **Develop Own Effectiveness and Professionalism**

**Unit code:** 202

**Unit reference number:** Y/601/3317

**Level:** 2

**Credit value:** 6

**Guided learning hours:** 30

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### **Unit summary**

This unit involves personal development, team working and awareness 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

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
1	Develop own personal and professional skills	1.1 Obtain and review feedback from others on performance 1.2 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 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 of colleagues 2.5 Identify obstacles to effective teamwork			
3	Understand what is meant by professional practice	3.1 Identify the implications, and applicability for IT professionals of: <ul style="list-style-type: none"> <li>- Data Protection Act</li> <li>- Computer Misuse Act.</li> </ul> 3.2 List the professional bodies for IT			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
4 Know the legislative environment relating to IT activities	4.2 Identify the impact on an IT organisation of legislation covering: <ul style="list-style-type: none"> <li>- processing of financial transactions</li> <li>- health and safety</li> <li>- privacy, confidentiality and security</li> <li>- copyright and intellectual property rights.</li> </ul>			
5 Improve personal effectiveness	5.1 List the aims and objectives of the organisation 5.2 State the organisation's brand or image 5.3 Identify the organisation's structure, roles and responsibilities 5.4 Identify potential improvements to working practices			

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<b>Unit title:</b>	<b>Develop Own Effectiveness and Professionalism</b>
<b>Unit code:</b>	302
<b>Unit reference number:</b>	D/503/5549
<b>Level:</b>	3
<b>Credit value:</b>	9
<b>Guided learning hours:</b>	45

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### **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

Learning outcomes		Assessment 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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Understand what is meant by professional practice	3.1 Describe the implications, and applicability for IT professionals of: <ul style="list-style-type: none"> <li>- Data Protection Act</li> <li>- Computer Misuse Act.</li> </ul> 3.2 Identify the role of professional bodies for IT, and the benefits of membership to individuals and organisations			
4 Understand the ethical and legislative environment relating to IT activities	4.1 Identify the types of conflicts of interest which can arise for IT professionals			
5 Improve organisational effectiveness	4.2 Describe the impact on an IT organisation of legislation covering: <ul style="list-style-type: none"> <li>- processing of financial transactions</li> <li>- health and safety</li> <li>- privacy, confidentiality and security</li> <li>- copyright and intellectual property rights</li> </ul> 5.1 Describe the aims and objectives of the organisation			
	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			

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<b>Unit title:</b>	<b>Develop Own Effectiveness and Professionalism</b>
<b>Unit code:</b>	402
<b>Unit reference number:</b>	K601/3502
<b>Level:</b>	4
<b>Credit value:</b>	12
<b>Guided learning hours:</b>	60

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### **Unit summary**

This unit involves personal development, team working and an understanding of IT professional ethics, practice and legislation. It also includes improving the effectiveness of the organisation.

### **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

Learning outcomes	Assessment 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 interpret feedback from others on performance 1.3 Set and agree personal goals and participate in development activities to meet them 1.4 Manage own personal/professional development in order to achieve career and personal goals 1.5 Reflect critically on own learning			
2 Work as a member of a team to achieve defined goals and implement agreed plans	2.1 Effectively plan and manage own and others 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 Understand the role of the individual and teams in an IT organisation 2.6 Identify and resolve obstacles to effective teamwork			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Understand what is meant by professional practice	3.1 Interpret the implications, and applicability for IT professionals of: <ul style="list-style-type: none"> <li>- Data Protection Act</li> <li>- Computer Misuse Act.</li> </ul> 3.2 Describe the role of professional bodies for IT, and the benefits of membership to individuals and organisations			
4 Understand the ethical and legislative environment relating to IT activities	3.3 Explain the importance of quality management systems and standards for systems development  4.1 Describe the types of conflicts of interest which can arise for IT professionals 4.2 Evaluate the impact on an IT organisation of legislation covering: <ul style="list-style-type: none"> <li>- processing of financial transactions</li> <li>- health and safety</li> <li>- privacy, confidentiality and security</li> <li>- copyright and intellectual property rights.</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
5 Improve organisational effectiveness	5.1 Interpret the aims and objectives of the organisation 5.2 Describe the organisation's brand or image and how it can be promoted 5.3 Describe the organisation's structure, roles and responsibilities 5.4 Identify and evaluate potential improvements to organisational effectiveness			

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<b>Unit title:</b>	<b>Customer Care in ICT</b>
<b>Unit code:</b>	103
<b>Unit reference number:</b>	T/500/7157
<b>Level:</b>	1
<b>Credit value:</b>	6
<b>Guided learning hours:</b>	35

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### **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 (eg 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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Know how to provide customer care in a familiar context</p>	<p>1.1 Describe simple uses of interpersonal communication techniques such as:</p> <ul style="list-style-type: none"> <li>- verbal (eg intonation, tone and feedback (sometimes referred to as verbal attends)) and non-verbal techniques (eg 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> </ul> <p>1.2 Identify the specified parts of the organisational requirements for customer care including:</p> <ul style="list-style-type: none"> <li>- customer service procedures (eg how to log customer information, how to initiate service calls, how to complete a sale)</li> <li>- authorisation procedures (eg how to confirm caller identity, how to validate requests)</li> <li>- escalation, resolution and complaint handling</li> <li>- quality assurance procedures</li> <li>- compliance with relevant legislation and regulations (eg data protection, financial services)</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<ul style="list-style-type: none"> <li>- maintenance and communication of organisational brand or image</li> <li>- organisational aims and objectives.</li> </ul> <p>1.3 Describe the specified methods of measuring customer satisfaction levels such as predefined formal feedback</p>			
2 Provide customer care in a familiar context	<p>2.1 Comply with organisational requirements.</p> <p>2.2 Communicate interpersonally on a familiar subject in a familiar work situation such as:</p> <ul style="list-style-type: none"> <li>- following organisational guidelines and procedures.</li> </ul> <p>2.3 Provide customer interaction such as:</p> <ul style="list-style-type: none"> <li>- focuses on addressing customer needs</li> <li>- interacts in a sensitive and helpful manner with the customer.</li> </ul> <p>2.4 Providing service delivery such as:</p> <ul style="list-style-type: none"> <li>- recognising own limitations</li> <li>- escalating customer issues following organisational requirements.</li> </ul> <p>2.5 Gather specified customer satisfaction information.</p>			

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<b>Unit title:</b>	<b>Customer Care in ICT</b>
<b>Unit code:</b>	203
<b>Unit reference number:</b>	A/500/7158
<b>Level:</b>	2
<b>Credit value:</b>	9
<b>Guided learning hours:</b>	45

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### **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 (eg 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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Know how to provide customer care by establishing customer relationships</p>	<p>1.1 Describe the uses of interpersonal communication techniques such as:</p> <ul style="list-style-type: none"> <li>- verbal (eg intonation, tone and feedback (sometimes referred to as verbal attends)) and non-verbal techniques (eg 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 (eg summarising, paraphrasing, body language)</li> <li>- listening barriers (eg background noise, distractions, lack of concentration)</li> <li>- types of question (eg open, closed and probing).</li> </ul> <p>1.2 Describe the relevant parts of the organisational requirements for customer care including:</p> <ul style="list-style-type: none"> <li>- customer service procedures (eg how to log customer information, how to initiate service calls, how to complete a sale)</li> <li>- authorisation procedures (eg how to confirm caller identity, how to validate requests)</li> <li>- escalation, resolution and complaint handling</li> <li>- quality assurance procedures</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<ul style="list-style-type: none"> <li>- compliance with relevant legislation and regulations (eg data protection, financial services)</li> <li>- maintenance and communication of organisational brand or image</li> <li>- organisational aims and objectives.</li> </ul> <p>1.3 Describe what the implications of customer satisfaction are:</p> <ul style="list-style-type: none"> <li>- customer retention</li> <li>- working relationships.</li> </ul> <p>1.4 Describe the relevant methods of measuring customer satisfaction levels such as:</p> <ul style="list-style-type: none"> <li>- predefined formal feedback</li> <li>- unsolicited feedback</li> <li>- anecdotal feedback.</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Provide customer care by establishing customer relationships	2.1 Comply with organisational requirements 2.2 Communicate interpersonally on familiar subjects such as: <ul style="list-style-type: none"> <li>- following organisational guidelines and procedures</li> <li>- articulating and expressing ideas clearly and concisely</li> <li>- listening actively (eg by taking notes)</li> <li>- clarifying and confirming understanding (eg 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>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>2.3 Providing customer interaction such as:</p> <ul style="list-style-type: none"> <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> <li>- builds a trusting relationship with the customer</li> <li>- keeps self and customer focused</li> <li>- maintains consistent communication style.</li> </ul> <p>2.4 Provide service delivery such as:</p> <ul style="list-style-type: none"> <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> <p>2.5 Handle complaints from customers such as:</p> <ul style="list-style-type: none"> <li>- using probing questions</li> <li>- displaying patience and understanding with demanding or emotional customers</li> </ul> <p>2.6 Gather specified customer satisfaction information.</p>			

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<b>Unit title:</b>	<b>Customer Care in ICT</b>
<b>Unit code:</b>	303
<b>Unit reference number:</b>	F/500/7159
<b>Level:</b>	3
<b>Credit value:</b>	12
<b>Guided learning hours:</b>	100

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### **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**

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

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
1	Understand how to provide ICT customer care by developing customer relationships	1.1 Describe the uses of interpersonal communication techniques 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	Be able to provide ICT customer care by developing customer relationships	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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Be able to contribute to improving the delivery of service	3.1 Describe the implications of customer satisfaction for the business 3.2 Describe the methods of measuring customer satisfaction levels 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			

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**Unit title:** Interpersonal and Written Communication

**Unit code:** 104

**Unit reference number:** M/500/7206

**Level:** 1

**Credit value:** 3

**Guided learning hours:** 25

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### **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 (eg documentation, emails, faxes, letters or presentations)
- successful interaction with individuals and groups.

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

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

### **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 and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Communicate interpersonally on a familiar subject in a familiar work situation</p>	<p>1.1 Apply knowledge of the following interpersonal communication techniques:</p> <ul style="list-style-type: none"> <li>- verbal (eg intonation, tone and feedback (sometimes referred to as verbal attends)) and non-verbal techniques (eg 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> </ul> <p>1.2 Communicate verbally following organisational guidelines and procedures</p>			
<p>2 Communicate in writing on familiar subjects using specified formats</p>	<p>2.1 Apply knowledge of the following written communication techniques:</p> <ul style="list-style-type: none"> <li>- grammar, spelling.</li> </ul> <p>2.2 Use the following techniques to produce and interpret written communication:</p> <ul style="list-style-type: none"> <li>- following organisational guidelines and procedures</li> <li>- identifying and conveying key messages in writing (eg letter, fax, email, database notes)</li> <li>- using correct grammar and spelling.</li> </ul>			

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*(if sampled)*



**Unit title:** Interpersonal and Written Communication

**Unit code:** 204

**Unit reference number:** T/500/7207

**Level:** 2

**Credit value:** 9

**Guided learning hours:** 60

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### 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 (eg documentation, emails, faxes, letters or presentations)
- successful interaction with individuals and groups.

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

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

### 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 and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Send and receive familiar information by communicating interpersonally in familiar situations</p>	<p>1.1 Apply knowledge of the following interpersonal communication techniques:</p> <ul style="list-style-type: none"> <li>- verbal (eg intonation, tone and feedback (sometimes referred to as verbal attends)) and non-verbal techniques (eg 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 (eg summarising, paraphrasing, body language)</li> <li>- listening barriers (eg background noise, distractions, lack of concentration)</li> <li>- types of question (eg open, closed and probing).</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>1.2 Use the following interpersonal communication techniques:</p> <ul style="list-style-type: none"> <li>- modulating voice when speaking to suit the listener or audience</li> <li>- articulating and expressing ideas clearly and concisely</li> <li>- listening actively (eg by taking notes)</li> <li>- clarifying and confirming understanding (eg 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>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Communicate in writing in familiar situations	2.1 Apply knowledge of the following written communication techniques: <ul style="list-style-type: none"> <li>- grammar, spelling.</li> </ul> 2.2 Use the following techniques to produce and interpret written communication <ul style="list-style-type: none"> <li>- following organisational guidelines and procedures</li> <li>- identifying and conveying key messages in writing (eg letter, fax, email, database notes)</li> <li>- using correct grammar and spelling</li> <li>- using and understanding appropriate business or technical terminology</li> <li>- ensuring content, format and style are appropriate to the audience and channel (eg letter, memo, fax, email, web chat)</li> <li>- structuring writing into a logical framework</li> <li>- conveying ideas and information in a clear and concise manner</li> <li>- identifying relevant information in written communications</li> <li>- reviewing or proof reading own written work.</li> </ul>			

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**Unit title:** Interpersonal and Written Communication

**Unit code:** 304

**Unit reference number:** A/500/7208

**Level:** 3

**Credit value:** 12

**Guided learning hours:** 100

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### 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 (eg documentation, emails, faxes, letters or presentations)
- successful interaction with individuals and groups.

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

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

### 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 and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Send and receive complex information by communicating interpersonally</p>	<p>1.1 Apply knowledge of the following interpersonal communication concepts:</p> <ul style="list-style-type: none"> <li>- verbal (eg intonation, tone and feedback (sometimes referred to as verbal attends)) and non-verbal techniques (eg 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 (eg summarising, paraphrasing, body language)</li> <li>- listening barriers (eg background noise, distractions, lack of concentration)</li> <li>- types of question (eg open, closed and probing)</li> <li>- how to adapt style (eg intonation, inflexion, business or technical terminology and vocabulary) to audience needs</li> <li>- how to reduce listening barriers</li> <li>- cultural differences.</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>1.2 Use the following interpersonal communication techniques:</p> <ul style="list-style-type: none"> <li>- modulating voice when speaking to suit the listener or audience</li> <li>- articulating and expressing ideas clearly and concisely</li> <li>- listening actively (eg by taking notes)</li> <li>- clarifying and confirming understanding (eg 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> <li>- select appropriate communication styles</li> <li>- adapt terminology and vocabulary to the needs of the audience</li> <li>- reduce barriers to listening</li> <li>- differentiate between facts and feelings.</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>2 Understand and use written communication techniques</p>	<p>2.1 Apply knowledge of the following written communication concepts:</p> <ul style="list-style-type: none"> <li>- grammar, spelling</li> <li>- business or technical terminology</li> <li>- format and style for different communication channels (eg letter, memo, email and fax).</li> </ul> <p>2.2 Use the following written communication techniques:</p> <ul style="list-style-type: none"> <li>- following organisational guidelines and procedures</li> <li>- identifying and conveying key messages in writing (eg letter, fax, email, database notes</li> <li>- using correct grammar and spelling</li> <li>- using and understanding appropriate business or technical terminology</li> <li>- ensuring content, format and style are appropriate to the audience and channel (eg letter, memo, fax, email, web chat)</li> <li>- structuring writing into a logical framework</li> <li>- conveying ideas and information in a clear and concise manner</li> <li>- identifying relevant information in written communications</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<ul style="list-style-type: none"> <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			

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<b>Unit title:</b>	<b>Data modelling</b>
<b>Unit code:</b>	205
<b>Unit reference number:</b>	A/601/3200
<b>Level:</b>	2
<b>Credit value:</b>	6
<b>Guided learning hours:</b>	45

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### **Unit summary**

This unit covers the use of simple logical data modelling techniques in the design of data structures for computer systems.

### **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 and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1. Know the basic concepts of logical data modelling	1.1 Identify entities, attributes and relationships 1.2 State the objectives of data normalisation 1.3 State the purpose of keys			
2. Use simple data modelling techniques to create logical data models	2.1 Identify and name entities, assigning the correct type and size 2.2 Identify entity relationships 2.3 Use a standard notation to create a logical data model			

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<b>Unit title:</b>	<b>Data Modelling</b>
<b>Unit code:</b>	305
<b>Unit reference number:</b>	L/601/3203
<b>Level:</b>	3
<b>Credit value:</b>	9
<b>Guided learning hours:</b>	75

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### **Unit summary**

This unit covers the use of logical data modelling techniques, including normalisation, in the design of data structures for computer systems.

### **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 and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Understand the concepts of logical data modelling	1.1 Describe entities and the types of attributes which can be assigned to them 1.2 Describe the type of relationships which can exist between entities 1.3 Explain the objectives of data normalisation and describe the Third Normal Form (3NF) 1.4 Explain the purpose of keys 1.5 Describe an application where un-normalized or de-normalised data may be used 1.6 Describe the types of standard notation which can be used to represent data sets as logical data models			
2 Use data modelling techniques to create logical data models	2.1 Identify and name entities, assigning the correct attributes 2.2 Identify and represent entity relationships, assigning the correct type 2.3 Normalise a data set to Third Normal Form (3NF)			
3 Use data modelling techniques to refine logical data models	3.1 Identify entities which will be accessed for enquiry and/or update 3.2 Identify access sequences and triggers 3.3 Create access rules/methods 3.4 Use a standard notation to describe the logical data model of a normalised data set			

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<b>Unit title:</b>	<b>Data Structures and Algorithms</b>
<b>Unit code:</b>	405
<b>Unit reference number:</b>	R/601/3297
<b>Level:</b>	4
<b>Credit value:</b>	15
<b>Guided learning hours:</b>	90

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### **Unit summary**

This unit provides in depth coverage of the use of data structures in information systems, together with the algorithms associated with them.

### **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 and assessment criteria

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
1	Understand the structure and uses of various data structures and their associated algorithms	1.1 Define the terminology used to describe the elements of data structures including arrays, linked lists, stacks, queues, trees, graphs and sets 1.1 Explain how one-dimensional and multi-dimensional arrays are structured and processed 1.2 Explain how linked lists (including singly, doubly and circular linked lists) are structured and processed 1.3 Explain how stacks and queues are structured and processed 1.4 Explain how trees and graphs are structured and processed 1.5 Explain how sets are structured and processed			
2	Understand the operation of established algorithms	2.1 Explain the operation and performance of sorting and search algorithms 2.2 Explain the operation of recursive algorithms and identify situations when recursion is used			
3	Select appropriate data structures and associated algorithms for specified problems	3.1 Given a specified problem, choose a data structure and associated algorithm and justify the selection			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
4	Describe the data structures and associated algorithms in a non-executable program specification language	<p>4.1 Specify the structure and associated algorithms of arrays, linked lists, stacks, queues, trees, graphs and sets in well-established specification languages</p> <p>4.2 Specify the behaviour of sorting, searching and recursive algorithms using well-established specification languages</p> <p>4.3 Demonstrate the operation of data-structures and algorithms by hand execution of the associated algorithms with specified test data</p>			
5	Implement data structures and algorithms in an executable programming language	<p>5.1 Implement arrays, linked lists, stacks, queues, trees, graphs and sets in the context of well-defined problems in an executable programming language</p> <p>5.2 Implement sorting, searching and recursive algorithms in the context of well-defined problems in an executable programming language</p> <p>5.3 Demonstrate the correct operation of data structure algorithms implemented in an executable programming language by devising and executing testing strategies</p>			
6	Understand how strings are structured and processed	<p>6.1 Explain the structure of strings</p> <p>6.2 Identify common string operations</p> <p>6.3 Demonstrate the outcome of string operations on specified strings</p>			

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<b>Unit title:</b>	<b>Technical Fault Diagnosis</b>
<b>Unit code:</b>	206
<b>Unit reference number:</b>	T/601/3292
<b>Level:</b>	2
<b>Credit value:</b>	9
<b>Guided learning hours:</b>	45

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### **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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Know the process, methods and information that are used in the diagnostic process</p>	<p>1.1 Identify the steps of the diagnostic process including:</p> <ul style="list-style-type: none"> <li>- fault validation</li> <li>- information gathering</li> <li>- information analysis</li> <li>- solution identification.</li> </ul> <p>1.2 Describe the types of diagnostic information that are commonly needed and their purpose</p> <p>1.3 Describe common diagnostic methods to include:</p> <ul style="list-style-type: none"> <li>- substitution</li> <li>- replication</li> <li>- performance and functional testing</li> <li>- environment change.</li> </ul> <p>1.4 List typical considerations affecting fault diagnosis, eg</p> <ul style="list-style-type: none"> <li>- minimisation of service disruption during diagnostics</li> <li>- individual responsibility and authority</li> <li>- escalation procedure</li> <li>- level of service.</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Apply processes to diagnose faults with a known range of causes and assist in the diagnosis of other faults	2.1 Correctly use appropriate diagnostic tools eg <ul style="list-style-type: none"> <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 2.3 Analyse information to identify the cause of faults, using two of the following approaches: <ul style="list-style-type: none"> <li>- gap analysis</li> <li>- identification of cause and effect</li> <li>- flow charts.</li> </ul>			
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: <ul style="list-style-type: none"> <li>- business or service impact</li> <li>- resource and skill availability</li> <li>- ease of implementation.</li> </ul> 3.2 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: <ul style="list-style-type: none"> <li>- fault description</li> <li>- supporting information</li> <li>- diagnostic tools etc used</li> <li>- cause of fault</li> <li>- remedy selected</li> </ul>			

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<b>Unit title:</b>	<b>Technical Fault Diagnosis</b>
<b>Unit code:</b>	306
<b>Unit reference number:</b>	A/601/3293
<b>Level:</b>	3
<b>Credit value:</b>	12
<b>Guided learning hours:</b>	75

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### **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**

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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Understand the processes, methods and information that are used in the diagnostic process</p>	<p>1.1 Describe the steps of the diagnostic process including:</p> <ul style="list-style-type: none"> <li>- fault validation</li> <li>- information gathering</li> <li>- information analysis</li> <li>- solution identification.</li> </ul> <p>1.2 Describe the types of diagnostic information that are commonly needed:</p> <ul style="list-style-type: none"> <li>- problem description</li> <li>- problem history</li> <li>- problem location</li> <li>- technical information on a specified range of products including the system under investigation.</li> </ul> <p>1.3 Explain the following diagnostic methods and give examples of their appropriate use:</p> <ul style="list-style-type: none"> <li>- substitution</li> <li>- replication</li> <li>- performance and functional testing</li> <li>- environment change.</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>1.4 Explain how the following considerations can affect fault diagnosis:</p> <ul style="list-style-type: none"> <li>- minimisation of service disruption during diagnostics</li> <li>- individual responsibility and authority</li> <li>- escalation procedure</li> <li>- service level agreements.</li> </ul> <p>1.5 Interpret detailed technical information on a range of products</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Be able to diagnose faults with a wide range of causes	2.1 Select and correctly use appropriate diagnostic tools to carry out non-routine diagnosis 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: - trend analysis - what-if scenarios - gap analysis - identification of cause and effect - flow charts. 2.5 Describe possible ways to prevent reoccurrence of diagnosed faults			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Select remedies for non-routine faults	3.1 Select a suitable remedy to rectify identified faults taking into account the following: <ul style="list-style-type: none"> <li>- business or service impact</li> <li>- resource and skill availability</li> <li>- ease of implementation</li> <li>- cost effectiveness</li> <li>- performance</li> <li>- compatibility</li> <li>- time</li> <li>- permanence.</li> </ul> 3.2 Identify possible ways to prevent reoccurrence of diagnosed faults			
4 Maintain diagnosis and remedy records	4.1 Accurately document the diagnosis activities undertaken including: <ul style="list-style-type: none"> <li>- fault description</li> <li>- supporting information</li> <li>- diagnostic tools etc used</li> <li>- cause of fault</li> <li>- remedy selected.</li> </ul>			

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<b>Unit title:</b>	<b>Technical Fault Diagnosis</b>
<b>Unit code:</b>	406
<b>Unit reference number:</b>	L/500/7391
<b>Level:</b>	4
<b>Credit value:</b>	15
<b>Guided learning hours:</b>	90

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### **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**

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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Understand the organisation's maintenance philosophy and the methods and information it requires</p>	<p>1.1 Describe the maintenance philosophy and processes used by the organisation</p> <p>1.2 Explain the types of diagnostic information that are commonly needed:</p> <ul style="list-style-type: none"> <li>- problem description</li> <li>- problem history</li> <li>- problem location</li> <li>- technical information on a specified range of products including the system under investigation.</li> </ul> <p>1.3 Explain the following diagnostic methods and give examples of their appropriate use:</p> <ul style="list-style-type: none"> <li>- substitution</li> <li>- replication</li> <li>- performance and functional testing environment change.</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>1.4 Explain how the following considerations can affect fault diagnosis:</p> <ul style="list-style-type: none"> <li>- minimisation of service disruption during diagnostics</li> <li>- individual responsibility and authority</li> <li>- escalation procedure</li> <li>- service level agreements.</li> </ul> <p>1.5 Interpret specialist technical information on a range of products</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Maintain the diagnostic process and provide specialist support to others	2.1 Develop diagnostic tools 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: <ul style="list-style-type: none"> <li>- poor product design</li> <li>- poor manufacture</li> <li>- poor performance</li> <li>- poor implementation</li> <li>- high rates of failure.</li> </ul> 2.6 Provide specialist guidance to support diagnosis			

Learning outcomes	Assessment criteria	Evidence type	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: <ul style="list-style-type: none"> <li>- business or service impact</li> <li>- resource and skill availability</li> <li>- ease of implementation</li> <li>- cost effectiveness</li> <li>- performance</li> <li>- compatibility</li> <li>- time</li> <li>- permanence.</li> </ul> 3.2 Identify possible ways to prevent reoccurrence of diagnosed faults			

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**Unit title:** Working with ICT Hardware and Equipment

**Unit code:** 107

**Unit reference number:** H/500/7381

**Level:** 1

**Credit value:** 6

**Guided learning hours:** 45

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### **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**

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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Know how to carry out work under direction</p>	<p>1.1 Describe the relevant parts of the working process such as:</p> <ul style="list-style-type: none"> <li>- tools and techniques to be used</li> <li>- procedures to be followed</li> <li>- procedures for information recording.</li> </ul> <p>1.2 Explain how regulatory requirements affect own work</p>			
<p>2 Carry out work under direction</p>	<p>2.1 Use specified tools and techniques safely</p> <p>2.2 Follow specified working procedures such as:</p> <ul style="list-style-type: none"> <li>- health and safety</li> <li>- quality</li> <li>- use of tools</li> <li>- configuration</li> <li>- testing</li> <li>- logistics</li> <li>- waste disposal</li> <li>- problem escalation</li> <li>- information recording</li> <li>- obtaining work permissions</li> <li>- security and confidentiality.</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	2.3 Record specified information connected with work activities			

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**Unit title:** Working with ICT Hardware and Equipment

**Unit code:** 207

**Unit reference number:** K/500/7382

**Level:** 2

**Credit value:** 9

**Guided learning hours:** 45

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### **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**

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

Learning outcomes	Assessment 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 Describe the working process such as: <ul style="list-style-type: none"> <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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Plan and carry out a range of ICT hardware and equipment work activities under direction	2.1 Use appropriate tools and techniques safely 2.2 Follow relevant working procedures such as: <ul style="list-style-type: none"> <li>- health and safety</li> <li>- quality</li> <li>- use of tools</li> <li>- configuration</li> <li>- testing; logistics</li> <li>- waste disposal</li> <li>- problem escalation</li> <li>- information recording</li> <li>- obtaining work permissions</li> <li>- security and confidentiality</li> <li>- customer acceptance</li> <li>- commissioning</li> <li>- product registration.</li> </ul> 2.3 Obtain specified resources 2.4 Record relevant information 2.5 Communicate the progress and outcome of work to the appropriate people			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Minimise risks related to ICT hardware and equipment work activities	3.1 Assess and minimise risks related to work activities such as: <ul style="list-style-type: none"> <li>- loss or corruption of data</li> <li>- loss of service</li> <li>- damage to equipment.</li> </ul>			

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**Unit title:** Working with ICT Hardware and Equipment

**Unit code:** 307

**Unit reference number:** M/500/7383

**Level:** 3

**Credit value:** 12

**Guided learning hours:** 100

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### **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**

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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Know how to plan and carry out or direct a wide range of work activities</p>	<p>1.1 Describe the working process such as:</p> <ul style="list-style-type: none"> <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> </ul> <p>1.2 Describe the appropriate uses of tools and techniques</p> <p>1.3 Explain which regulatory requirements affect work activities and how they do so</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Plan and carry out or direct a wide range of work activities	2.1 Select, adapt and use relevant tools and techniques safely  2.2 Provide technical advice to support working procedures such as: <ul style="list-style-type: none"> <li>- health and safety</li> <li>- quality</li> <li>- use of tools</li> <li>- configuration</li> <li>- testing; logistics</li> <li>- waste disposal</li> <li>- problem escalation</li> <li>- information recording</li> <li>- obtaining work permissions</li> <li>- security and confidentiality</li> <li>- customer acceptance</li> <li>- commissioning</li> <li>- product registration</li> <li>- integration.</li> </ul> 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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Minimise risks related to work activities	3.1 Provide support and advice in assessing and minimising risks related to work activities such as: <ul style="list-style-type: none"> <li>- loss or corruption of data</li> <li>- loss of service</li> <li>- damage to equipment</li> <li>- effects on customer operations.</li> </ul>			

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<b>Unit title:</b>	<b>Working with ICT Hardware and Equipment</b>
<b>Unit code:</b>	407
<b>Unit reference number:</b>	T/500/7384
<b>Level:</b>	4
<b>Credit value:</b>	15
<b>Guided learning hours:</b>	90

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### **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**

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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Understand how to manage working practices for ICT hardware and equipment</p>	<p>1.1 Explain how to align processes with organisational objectives and customer needs</p> <p>1.2 Explain the appropriate uses of tools and techniques</p> <p>1.3 Explain which regulatory requirements might affect working procedures and how to take them into account.</p>			
<p>2 Manage and improve working practices relating to ICT hardware and equipment</p>	<p>2.1 Select, adapt and use relevant tools and techniques safely</p> <p>2.2 Create and implement working procedures relating to the use of ICT hardware and equipment</p> <p>2.3 Obtain and allocate required materials</p> <p>2.4 Record relevant information</p> <p>2.5 Communicate the progress and outcome of work to the appropriate people</p> <p>2.6 Develop documentation to support effective working practices</p> <p>2.7 Develop tools to enable more efficient working practices</p> <p>2.8 Contribute to the development of the organisation's work strategy</p>			

Learning outcomes	Assessment criteria	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			

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**Unit title:** Introduction to IT Systems Development

**Unit code:** 208

**Unit reference number:** R/601/3247

**Level:** 2

**Credit value:** 6

**Guided learning hours:** 50

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### **Unit summary**

This unit covers the investigation of existing systems and processes and the analysis of information to identify needs and constraints.

### **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 and assessment criteria

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
1	Understand IT Systems and the roles of IT personnel	1.1 Explain the role of IT Systems in society 1.2 Describe the major components of a contemporary IT System 1.3 Describe the roles of personnel in the development, operation and use of IT System			
2	Understand IT Systems Development Life Cycle (SDLC) models	2.1 Describe top down, bottom up and integrated approaches to IT Systems development 2.2 Explain the purposes of the initiation, analysis, design and implementation phases of the IT SDLC 2.3 Identify the advantages and disadvantages of the traditional ('waterfall') SDLC model 2.4 Describe two other SDLC models, identifying the type of development for which they are suited			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Understand IT Systems Development Life Cycle (SDLC) concepts and processes	3.1 Describe the advantages and disadvantages of the following solution types: <ul style="list-style-type: none"> <li>- packaged ('off the shelf')</li> <li>- bespoke</li> <li>- combination of packaged and bespoke</li> <li>- upgrade</li> </ul> 3.2 Explain the importance of quality assurance and meeting customer requirements during the IT SDLC and the means by which they can be achieved           3.3 Describe the applicability of the following methods of gathering information: <ul style="list-style-type: none"> <li>- interviews</li> <li>- observations</li> <li>- questionnaires</li> <li>- examination of records and documents</li> </ul>			

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**Unit title:** Investigating and Defining Customer Requirements for ICT Systems

**Unit code:** 308

**Unit reference number:** R/601/3249

**Level:** 3

**Credit value:** 12

**Guided learning hours:** 75

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### **Unit summary**

This unit covers the investigation of existing systems and processes and the analysis of information to identify needs and constraints.

### **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 and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Investigate existing systems and processes	1.1 Use three of the following investigative methods: <ul style="list-style-type: none"> <li>- observations</li> <li>- examination of existing documents, records or software</li> <li>- questionnaires</li> <li>- site surveys.</li> </ul> 1.2 Record the results of investigations using standard documentation 1.3 Explain the importance of preserving the confidentiality of customer information			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Analyse information to identify needs and constraints	2.1 Describe the type of defect, including inaccuracy, duplication and omission, which can arise in information  2.2 Describe the types of customer needs and constraints which can affect the design of an ICT system  2.3 Analyse information to identify customer needs for: <ul style="list-style-type: none"> <li>- data to be stored and processed</li> <li>- functionality in terms of inputs, processes and outputs</li> <li>- capacity including numbers of users, throughput, and data storage.</li> </ul> 2.4 Analyse information to identify customer constraints  2.5 Record the results of analyses using standard documentation			

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**Unit title:** Investigating and Defining Customer Requirements for ICT Systems

**Unit code:** 408

**Unit reference number:** R/602/1772

**Level:** 4

**Credit value:** 15

**Guided learning hours:** 90

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### **Unit summary**

This unit provides the skills, knowledge and understanding requirements to take a leading role in the investigation and definition of customer requirements for ICT systems and services.

### **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 and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Control the investigation of existing and proposed systems and processes	1.1 Select and use the investigative methods which will elicit relevant information about existing and proposed systems and processes 1.2 Create the documentation required to record the results of investigations 1.3 Ensure that investigative methods are applied correctly and all relevant information is recorded using standard documentation 1.4 Ensure that the confidentiality of customer information is preserved 1.5 Provide advice and guidance to colleagues on investigation and analysis of information			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Analyse information to identify needs and constraints	2.1 Explain the types of defect, and their causes which can arise in information 2.2 Describe methods of minimising defects in information. 2.3 Explain how customer needs and constraints can affect the design of an ICT system 2.4 Analyse information to identify customer needs and priorities for: <ul style="list-style-type: none"> <li>- data to be stored and processed</li> <li>- functionality in terms of inputs, processes and outputs</li> <li>- capacity including numbers of users, throughput, and data storage.</li> </ul> 2.5 Analyse information to identify customer constraints 2.6 Verify that identified needs, priorities and constraints meet customer requirements			

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<b>Unit title:</b>	<b>Managing Software Development</b>
<b>Unit code:</b>	309
<b>Unit reference number:</b>	T/500/6798
<b>Level:</b>	3
<b>Credit value:</b>	12
<b>Guided learning hours:</b>	90

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### **Unit summary**

Software development commences with an agreed requirements definition and covers the creation of software designs, creation of the actual software components and finally installation and testing of the software.

Level 3 would include the supervision of a small team of developers often working on a defined part of a large project, or responsible for a small project.

### **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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Understand the technical aspects of the software development work of others</p>	<p>1.1 Describe what organisational requirements to follow relating to:</p> <ul style="list-style-type: none"> <li>- form, content and structure of program designs</li> <li>- style for internal documentation of software components</li> <li>- conventions for naming of software components</li> <li>- format, content and presentation of maintenance documentation.</li> </ul> <p>1.2 Describe the software development procedures to be followed including:</p> <ul style="list-style-type: none"> <li>- creating detailed designs, software components and documentation</li> <li>- testing and installing software</li> <li>- creating outline designs</li> <li>- specifying runtime environments.</li> </ul>			
<p>2 Supervise the technical aspects of the software development work of others</p>	<p>2.1 Provide guidance on specified organisational requirements and procedures to immediate colleagues</p>			

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<b>Unit title:</b>	<b>Computer Games Development</b>
<b>Unit code:</b>	210
<b>Unit reference number:</b>	A/601/3164
<b>Level:</b>	2
<b>Credit value:</b>	4
<b>Guided learning hours:</b>	28

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### **Unit summary**

This unit introduces computer game components and the computer games industry. It also covers the fundamentals of developing computer games.

### **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 and assessment criteria

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
1	Know computer game components and the computer games industry	1.1 Identify the hardware and software components of a video game system 1.2 Identify the activities required to develop modern computer games 1.3 Describe the features of an existing computer game			
2	Know how to develop a computer game specification	2.1 Contribute to the production of a pre-production proposal document for a computer game project 2.2 Identify the components required to develop a computer game 2.3 Contribute to the productions of an implementation plan for a computer game development			
3	Implement a component of a computer game	3.1 Design a component of a computer game 3.2 Develop a component of a computer game			

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<b>Unit title:</b>	<b>Computer Games Development</b>
<b>Unit code:</b>	310
<b>Unit reference number:</b>	F/601/3165
<b>Level:</b>	3
<b>Credit value:</b>	10
<b>Guided learning hours:</b>	71

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### **Unit summary**

This unit provides detailed coverage of computer games architecture and components and also the computer games industry. It also involves the evaluation, specification and implementation of computer games.

### **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 and assessment criteria

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
1	Understand computer game architecture and components	1.1 Describe the hardware and software components of a video game system			
2	Understand the computer games industry	2.1 Describe the stages of evolution of computer game industry 2.2 Describe the roles and activities required to develop modern computer games 2.3 Explain computer game development processes and terminology 2.4 Explain computer game programming methods and techniques			
3	Be able to evaluate existing computer games	3.1 Produce a structured evaluation of an existing computer game			
4	Develop a computer game specification	4.1 Produce a pre-production proposal document for a computer game project 4.2 Identify the components required to develop a computer game 4.3 Produce an implementation plan for a computer game development			
5	Implement elements of a computer game	5.1 Design components of a computer game 5.2 Develop components of a computer game 5.3 Test components of a computer game			

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<b>Unit title:</b>	<b>Creating a Procedural Computer Program</b>
<b>Unit code:</b>	211
<b>Unit reference number:</b>	L/601/3167
<b>Level:</b>	2
<b>Credit value:</b>	10
<b>Guided learning hours:</b>	60

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### **Unit summary**

This unit introduces the fundamental concepts of procedural computer languages and their use to implement, refine and test a computer program.

### **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 and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Implement software using procedural programming	1.1 Select, declare and initialise variable and data structure types and sizes to meet given requirements 1.2 Implement control structures 1.3 Declare file structures 1.4 Use standard input/output commands 1.5 Use operators and predefined functions 1.6 Correctly use parameter passing mechanisms			
2 Refine a procedural programme to improve quality	2.1 Follow an agreed standard for naming, comments and code layout 2.2 Implement data validation for inputs 2.3 Implement error-handling and reporting 2.4 Create documentation to assist the users of a computer programme			
3 Test the operation of a procedural programme	3.1 Use available debugging tools 3.2 Determine expected test results from given test data 3.3 Compare actual test results against expected results to identify discrepancies			

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**Unit title:** **Creating a Procedural Computer Program**

**Unit code:** 311

**Unit reference number:** R/601/3171

**Level:** 3

**Credit value:** 12

**Guided learning hours:** 90

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### **Unit summary**

This unit covers more advanced concepts of procedural computer languages and their use to implement, refine and test computer programs.

### **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 and assessment criteria

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

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
2	Refine a procedural program to improve quality	2.1 Use an agreed standard for naming, comments and code layout 2.2 Define user functions to replace repeating code sequences 2.3 Implement data validation for inputs 2.4 Identify and implement opportunities for error-handling and reporting			
3	Test the operation of a procedural program	3.1 Make effective use of available debugging tools 3.2 Prepare a test strategy 3.3 Select suitable test data and determine expected test results 3.4 Record actual test results to enable comparison with expected results 3.5 Analyse actual test results against expected results to identify discrepancies 3.6 Investigate test discrepancies to identify and rectify their causes			
4	Document a computer program	4.1 Create documentation to assist the users of a computer program 4.2 Create documentation for the support and maintenance of a computer program			

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<b>Unit title:</b>	<b>Designing and Developing Procedural Computer Programs</b>
<b>Unit code:</b>	411
<b>Unit reference number:</b>	T/601/3311
<b>Level:</b>	4
<b>Credit value:</b>	15
<b>Guided learning hours:</b>	90

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### **Unit summary**

To provide the learner with the skills and competencies to carry out the development of a procedural computer program from design to testing in a professional capacity, and to understand a range of issues concerned with software development activities.

### **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 and assessment criteria

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
1	Design procedural programs to address loosely-defined problems	1.1 Identify and structure procedures and functions to address problems 1.2 Select and use library functions and procedures 1.3 Structure the design with regard to coupling and cohesion 1.4 Specify the behaviour of functions and procedures to allow efficient implementation, selecting appropriate data types, data and file structures and algorithms 1.5 Record the design using well-established notations			
2	Produce a working procedural program which meets the design specification	2.1 Make effective use of basic programming language features and programming concepts to implement a program that satisfies the design specification 2.2 Make effective use of the features of the programming environment 2.3 Make effective use of user interface components in the implementation of the program 2.4 Make effective use of a range of debugging tools			
3	Develop procedural programs that reflect established programming and software engineering practice	3.1 Apply standard naming, layout and comment conventions 3.2 Apply appropriate data validation and error-handling techniques			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
4 Develop test strategies and apply these to procedural programs	4.1 Develop and apply a test strategy consistent with the design identifying appropriate test data 4.2 Apply regression testing consistent with the test strategy 4.3 Use appropriate tools to estimate the performance of the program			
5 Develop design documentation for use in program maintenance and end-user documentation	5.1 Record the final state of the program in a form suitable for subsequent maintenance 5.2 Provide end-user documentation that meets the user's needs			

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<b>Unit title:</b>	<b>Creating an Object-Oriented Computer Program</b>
<b>Unit code:</b>	212
<b>Unit reference number:</b>	A/601/3181
<b>Level:</b>	2
<b>Credit value:</b>	7
<b>Guided learning hours:</b>	60

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### **Unit summary**

This unit introduces the fundamental concepts of object-oriented computer languages and their use to implement, refine and test a computer program.

### **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 and assessment criteria

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
1	Implement software using object-oriented programming	1.1 Select, declare and initialise variable and data structure types and sizes to meet given requirements 1.2 Define relationships between objects 1.3 Implement object behaviours using control structures 1.4 Declare file structures 1.5 Use standard input/output commands 1.6 Use operators and predefined functions 1.7 Make effective use of an Integrated Development Environment (IDE)			
2	Refine an object-oriented program to improve quality	2.1 Follow an agreed standard for naming, comments and code layout 2.2 Implement data validation for inputs 2.3 Implement opportunities error-handling and reporting 2.4 Create on-screen help to assist the users of a computer program			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Test the operation of an object-oriented driven program	3.1 Use of the debugging facilities available in the IDE 3.2 Determine expected test results from given test data 3.3 Compare actual results against expected results to identify discrepancies			

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<b>Unit title:</b>	<b>Creating an Object-Oriented Computer Program</b>
<b>Unit code:</b>	312
<b>Unit reference number:</b>	L/601/3184
<b>Level:</b>	3
<b>Credit value:</b>	12
<b>Guided learning hours:</b>	90

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### **Unit summary**

This unit covers more advanced concepts of object-oriented computer languages and their use to implement, refine and test computer programs.

### **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 and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Implement a software design using object-oriented programming	1.1 Identify the objects and data and file structures required to implement a given design 1.2 Select, declare and initialise variable and data structure types and sizes to implement design requirements 1.3 Define relationships between objects to implement design requirements 1.4 Implement message passing between objects to implement design requirements 1.5 Implement object behaviours using control structures to meet the design algorithms 1.6 Select and declare file structures to meet design file storage requirements 1.7 Select and use standard input/output commands to implement design requirements 1.8 Make effective use of operators and predefined functions 1.9 Make effective use of an Integrated Development Environment (IDE) including code and screen templates			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Refine an object-oriented program to improve quality	2.1 Use an agreed standard for naming, comments and code layout 2.2 Make effective use of encapsulation, polymorphism and inheritance 2.3 Implement data validation for inputs 2.4 Identify and implement opportunities for error-handling and reporting			
3 Test the operation of an object-oriented driven program	3.1 Make effective use of the debugging facilities available in the IDE 3.2 Prepare a test strategy 3.3 Select suitable test data and determine expected test results 3.4 Record actual test results to enable comparison with expected results 3.5 Analyse actual test results against expected results to identify discrepancies 3.6 Investigate test discrepancies to identify and rectify their causes			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
4 Document an object-oriented driven program	4.1 Create on-screen help to assist the users of a computer program 4.2 Create documentation for the support and maintenance of a computer program			

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<b>Unit title:</b>	<b>Designing and Developing Object-Oriented Computer Programs</b>
<b>Unit code:</b>	412
<b>Unit reference number:</b>	T/601/3308
<b>Level:</b>	4
<b>Credit value:</b>	15
<b>Guided learning hours:</b>	90

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### **Unit summary**

To provide the learner with the skills and competencies to carry out the development of an object-oriented computer program from design to testing in a professional capacity and to understand a range of issues concerned with software development activities.

### **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 and assessment criteria

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
1	Design object-oriented programs to address loosely-defined problems	1.1 Identify a set of classes and their interrelationships to address the problem 1.2 Make effective use of encapsulation, inheritance and polymorphism 1.3 Select and reuse pre-existing objects and templates specialising as required 1.4 Structure the design so that objects communicate efficiently 1.5 Specify the properties and behaviour of classes to allow efficient implementation, selecting appropriate data types, data and file structures and algorithms 1.6 Record the design using well established notations			
2	Produce a working object-oriented program which meets the design specification	2.1 Make effective use of basic programming language features and programming concepts to implement a program that satisfies the design specification 2.2 Make effective use of the features of the programming environment 2.3 Make effective use of user interface components in the implementation of the program 2.4 Make effective use of a range of debugging tools			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
3	Develop object-oriented programs that reflect established programming and software engineering practice	3.1 Apply standard naming, layout and comment conventions 3.2 Apply appropriate data validation and error-handling techniques			
4	Develop test strategies and apply these to object-oriented programs	4.1 Develop and apply a test strategy consistent with the design identifying appropriate test data 4.2 Apply regression testing consistent with the test strategy 4.3 Use appropriate tools to estimate the performance of the program			
5	Develop design documentation for use in program maintenance and end-user documentation	5.1 Record the final state of the program in a form suitable for subsequent maintenance 5.2 Provide end-user documentation that meets the user's needs			

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<b>Unit title:</b>	<b>Creating an Event-Driven Computer Program</b>
<b>Unit code:</b>	213
<b>Unit reference number:</b>	T/601/3177
<b>Level:</b>	2
<b>Credit value:</b>	7
<b>Guided learning hours:</b>	60

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### **Unit summary**

This unit introduces the fundamental concepts of event-driven computer languages and their use to implement, refine and test a computer program.

### **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 and assessment criteria

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

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
2	Refine an event-driven program to improve quality	2.1 Follow an agreed standard for naming, comments and code layout 2.2 Implement data validation for inputs 2.3 Implement error-handling and reporting 2.4 Create documentation for the support and maintenance of a computer program			
3	Test the operation of an event-driven program	3.1 Use the debugging facilities available in the IDE 3.2 Determine expected test results from given test data 3.3 Compare actual test results against expected results to identify discrepancies			

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<b>Unit title:</b>	<b>Creating an Event-Driven Computer Program</b>
<b>Unit code:</b>	313
<b>Unit reference number:</b>	F/601/3179
<b>Level:</b>	3
<b>Credit value:</b>	12
<b>Guided learning hours:</b>	90

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### **Unit summary**

This unit covers more advanced concepts of event-driven computer languages and their use to implement, refine and test computer programs.

### **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 and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Implement a software design using event-driven programming	1.1 Identify the screen components and data and file structures required to implement a given design 1.2 Select, declare and initialise variable and data structure types and sizes to implement design requirements 1.3 Select and assign properties to screen components to implement design requirements 1.4 Select and associate events (including parameter passing) to screen components to implement design requirements 1.5 Implement event handling using control structures to meet the design algorithms 1.6 Select and declare file structures to meet design file storage requirements 1.7 Select and use standard input/output commands to implement design requirements 1.8 Make effective use of operators and predefined functions 1.9 Make effective use of an Integrated Development Environment (IDE) including code and screen templates			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
2	Refine an event-driven program to improve quality	2.1 Use an agreed standard for naming, comments and code layout 2.2 Define user functions to replace repeating code sequences 2.3 Implement data validation for inputs 2.4 Identify and implement opportunities for error-handling and reporting			
3	Test the operation of an event-driven program	3.1 Make effective use of the debugging facilities available in the IDE 3.2 Prepare a test strategy 3.3 Select suitable test data and determine expected test results 3.4 Record actual test results to enable comparison with expected results 3.5 Analyse actual test results against expected results to identify discrepancies 3.6 Investigate test discrepancies to identify and rectify their causes			
4	Document an event-driven program	4.1 Create on-screen help to assist the users of a computer program 4.2 Create documentation for the support and maintenance of a computer program			

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<b>Unit title:</b>	<b>Designing and Developing Event-Driven Computer Programs</b>
<b>Unit code:</b>	413
<b>Unit reference number:</b>	J/601/3300
<b>Level:</b>	4
<b>Credit value:</b>	10
<b>Guided learning hours:</b>	90

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### **Unit summary**

To provide the learner with the skills and competencies to carry out the development of an event-driven computer program from design to testing in a professional capacity, and to understand a range of issues concerned with software development activities.

### **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 and assessment criteria

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
1	Design event-driven programs to address loosely-defined problems	1.1 Identify and structure the components and data required to address problems 1.2 Select and use pre-defined components, specialising as required 1.3 Identify the set of events that invoke behaviour of components and other programme elements 1.4 Specify the behaviour of components and other program elements to allow efficient implementation, selecting appropriate data types, data and file structures and algorithms 1.5 Record the design using well-established notations			
2	Produce a working event-driven program which meets the design specification	2.1 Make effective use of basic programming language features and programming concepts to implement a program that satisfies the design specification 2.2 Make effective use of the features of the programming environment 2.3 Make effective use of user interface components in the implementation of the program 2.4 Make effective use of a range of debugging tools			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
3	Develop event-driven programs that reflect established programming and software engineering practice	3.1 Apply standard naming, layout and comment conventions 3.2 Apply appropriate data validation and error-handling techniques			
4	Develop test strategies and apply these to event-driven programs	4.1 Develop and apply a test strategy consistent with the design identifying appropriate test data 4.2 Apply regression testing consistent with the test strategy 4.3 Use appropriate tools to estimate the performance of the program			
5	Develop design documentation for use in program maintenance and end-user documentation	5.1 Record the final state of the program in a form suitable for subsequent maintenance 5.2 Provide end-user documentation that meets the user's needs			

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**Unit title:** Customer Apparatus and Line Installation

**Unit code:** 314

**Unit reference number:** A/501/5888

**Level:** 3

**Credit value:** 22

**Guided learning hours:** 22

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### **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**

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 and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Run cables into the end-user premises and fit main and extension telephone sockets	1.1 Cite the importance for superb customer service 1.2 Recognise the key elements of the local access network 1.3 Drill holes to ISIS standard 1.4 Install external and internal cabling in a customers 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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
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 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 customers lead-in, up to but not including the point of entry into the customers 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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>2.10 State the minimum separation distances between dropwires and power lines</p> <p>2.11 State the correct equipment for measuring the height of power lines</p> <p>2.12 State where lightning protection is fitted:</p> <ul style="list-style-type: none"> <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> <p>2.13 Provide and recover a single span of dropwire, from a simulated customers premises to wooden pole A; the dropwire span between pole A and the customer crosses over low voltage power.</p> <p>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</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Cross connect circuits in primary and secondary cross connection points	3.1 State the purpose of Primary and Secondary Cross Connection Points (PCPs and SCPs) 3.2 List the termination systems used in PCP's and SCP's 3.3 State the quality standards required when provide jumpers on the following termination systems: - P100/PC100 - SCC No 1 - SCC No 2 - BIX MCCA - 3M MS2 MCCA - Krone MCCA - Quante MCCA. 3.4 Cross connect circuits on and between Krone and Quante MCCA			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
4 Work safely on wooden poles, steps and ladders	4.1 Select and carry a three section aluminium ladder 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 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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
5. Carry out manual handling using the kinetic method	5.1 Demonstrate understanding of the principles of: <ul style="list-style-type: none"> <li>- base movement</li> <li>- legislation</li> <li>- components of the spine</li> <li>- causes of back pain</li> <li>- safer manual handling</li> <li>- method of holding</li> <li>- manual handling and risk assessments.</li> </ul> 5.2 Carry out practical demonstrations using techniques recommended by ROSPA 5.3 Carry out practical exercises to practise skills in a safe environment			

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**Unit title:** Quality Management of ICT Products and Services

**Unit code:** 315

**Unit reference number:** T/500/7210

**Level:** 3

**Credit value:** 12

**Guided learning hours:** 100

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### **Unit summary**

To develop an understanding of quality management procedures and the ability to implement them, monitoring work performance and product quality, and collecting and processing quality related information.

### **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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Understand specified organisational quality management procedures</p>	<p>1.1 Explain specified parts of organisational quality management procedures including:</p> <ul style="list-style-type: none"> <li>- customer agreements</li> <li>- activity planning</li> <li>- third-party monitoring</li> <li>- change control</li> <li>- work-in-progress</li> <li>- testing</li> <li>- defects and defective components</li> <li>- audit and inspection</li> <li>- customer feedback</li> <li>- communication.</li> </ul>			
<p>2 Monitor quality management procedures</p>	<p>2.1 Monitor compliance with relevant parts of procedures by:</p> <ul style="list-style-type: none"> <li>- participating in audits of working practices and inspections of work</li> <li>- gathering and recording information on quality</li> <li>- initiating suitable actions to deal with identified failures in quality.</li> </ul> <p>2.2 Provide guidance to immediate colleagues on quality</p>			

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<b>Unit title:</b>	<b>Remote Support for Products or Services</b>
<b>Unit code:</b>	116
<b>Unit reference number:</b>	R/500/7215
<b>Level:</b>	1
<b>Credit value:</b>	6
<b>Guided learning hours:</b>	45

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### **Unit summary**

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

### **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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Know the specified parts of customer care requirements and details of the supported products and services that apply to them</p>	<p>1.1 Describe specified details of products or services to be supported:</p> <ul style="list-style-type: none"> <li>- how to identify the products or services</li> <li>- basic features and uses of the products or services</li> <li>- standard responses to frequently asked requests.</li> </ul> <p>1.2 Describe specified parts of organisational requirements for customer care:</p> <ul style="list-style-type: none"> <li>- customer service procedures (eg how to log customer information, how to initiate service calls, how to complete a sale)</li> <li>- authorisation procedures (eg how to confirm caller identity, how to validate requests)</li> <li>- escalation, resolution and complaint handling</li> <li>- quality assurance procedures</li> <li>- compliance with relevant legislation and regulations (eg data protection, financial services)</li> <li>- maintenance and communication of organisational brand or image</li> <li>- organisational aims and objectives.</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Provide routine support on specified products or services	2.1 Comply with organisational requirements 2.2 Confirm customer identity and validate requests using specified methods and sources (eg 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: <ul style="list-style-type: none"> <li>- identifying customers' needs</li> <li>- accurately collecting and logging relevant information from the customer</li> <li>- providing product and service features to customers</li> <li>- ensuring customer understanding of the information provided.</li> </ul> 2.5 Resolve and escalate requests			

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**Unit title:** Remote Support for Products or Services

**Unit code:** 216

**Unit reference number:** Y/500/7216

**Level:** 2

**Credit value:** 9

**Guided learning hours:** 60

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### **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**

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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Know relevant parts of customer care requirements and details of the supported products and services</p>	<p>1.1 Describe the specified products or services to be supported:</p> <ul style="list-style-type: none"> <li>- benefits of the products and services;</li> <li>- frequently used product or service options</li> <li>- standard features and common uses of the products or services.</li> </ul> <p>1.2 Describe relevant parts of organisational requirements for customer care, such as:</p> <ul style="list-style-type: none"> <li>- customer service procedures (eg how to log customer information, how to initiate service calls, how to complete a sale)</li> <li>- authorisation procedures (eg how to confirm caller identity, how to validate requests)</li> <li>- escalation, resolution and complaint handling</li> <li>- quality assurance procedures</li> <li>- compliance with relevant legislation and regulations (eg data protection, financial services)</li> <li>- maintenance and communication of organisational brand or image</li> <li>- organisational aims and objectives.</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Provide support on specified products or services	2.1 Comply with organisational requirements 2.2 Confirm customer identity, validate requests and inform customers when authorisation criteria are not met 2.3 Communicate information on specified products or services: <ul style="list-style-type: none"> <li>- identifying customers needs</li> <li>- accurately collecting and logging relevant information from the customer</li> <li>- providing product and service features to customers</li> <li>- ensuring customer understanding of the information provided</li> <li>- categorising requests and directing customers appropriately</li> <li>- managing customer expectations (eg 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: <ul style="list-style-type: none"> <li>- using probing questions</li> <li>- displaying patience and understanding with demanding or emotional customers.</li> </ul>			

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**Unit title:** Remote Support for Products or Services

**Unit code:** 316

**Unit reference number:** D/500/7217

**Level:** 3

**Credit value:** 12

**Guided learning hours:** 100

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### **Unit summary**

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

### **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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Understand the organisational requirements for customer care and the supported products and services</p>	<p>1.1 Describe the products and services to be supported including:</p> <ul style="list-style-type: none"> <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>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>1.2 Describe the organisational requirements for customer care including:</p> <ul style="list-style-type: none"> <li>- customer service procedures (eg how to log customer information, how to initiate service calls, how to complete a sale)</li> <li>- authorisation procedures (eg how to confirm caller identity, how to validate requests)</li> <li>- escalation, resolution and complaint handling</li> <li>- quality assurance procedures</li> <li>- compliance with relevant legislation and regulations (eg data protection, financial services)</li> <li>- maintenance and communication of organisational brand or image</li> <li>- organisational aims and objectives.</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Support products or services.	2.1 Comply with organisational requirements 2.2 Confirm customer identity, validate requests and inform customers when authorisation criteria are not met 2.3 Communicate information on specified products or services: <ul style="list-style-type: none"> <li>- identifying customers needs</li> <li>- accurately collecting and logging relevant information from the customer</li> <li>- providing product and service features to customers</li> <li>- ensuring customer understanding of the information provided</li> <li>- categorising requests and directing customers appropriately</li> <li>- managing customer expectations (eg by confirming outcomes, timescales or costs)</li> <li>- discussing advantages and disadvantages of complex products and services</li> <li>- discussing how the service product best fits the customers needs</li> <li>- keeping customer informed on progress</li> <li>- asking effective and appropriate probing questions.</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	2.4 Make recommendations based on customer needs 2.5 Resolve and escalate requests and handle basic complaints: <ul style="list-style-type: none"> <li>- using probing questions</li> <li>- displaying patience and understanding with demanding or emotional customers</li> <li>- diffusing volatile situations using appropriate communication techniques</li> <li>- delivering difficult messages to customers and explaining the reasons behind the decision</li> <li>- assessing priority of complaints</li> <li>- resolving routine complaints.</li> </ul>			

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<b>Unit title:</b>	<b>Remote Support for ICT Products or Services</b>
<b>Unit code:</b>	416
<b>Unit reference number:</b>	A/602/1264
<b>Level:</b>	4
<b>Credit value:</b>	15
<b>Guided learning hours:</b>	90

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### **Unit summary**

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

### **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

Learning outcomes		Assessment criteria	Evidence type	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			

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<b>Unit title:</b>	<b>Security of ICT Systems</b>
<b>Unit code:</b>	117
<b>Unit reference number:</b>	K/500/7219
<b>Level:</b>	1
<b>Credit value:</b>	3
<b>Guided learning hours:</b>	20

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### **Unit summary**

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

### **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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Know the particular threats to an IT system and its data with specified methods and procedures for protecting it</p>	<p>1.1 Describe specified data protection methods, such as</p> <ul style="list-style-type: none"> <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> <p>1.2 Describe specified methods of providing physical security for ICT systems:</p> <ul style="list-style-type: none"> <li>- access control devices (eg locks, biometric controls, CCTV)</li> <li>- limiting visibility of data (eg by positioning of monitors, using encryption)</li> <li>- shielding (eg cable screening, Faraday cages).</li> </ul> <p>1.3 Describe relevant organisational security procedures</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>1.4 Describe the type of security breaches that can occur in IT systems, such as:</p> <ul style="list-style-type: none"> <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 (eg denial of service attack).</li> </ul>			
<p>2 Comply with relevant security requirements to protect an IT system and its data</p>	<p>2.1 Use specified security tools to identify and prevent breaches of security:</p> <ul style="list-style-type: none"> <li>- internal system tools (eg passwords, anti-virus software, firewalls and encryption facilities)</li> <li>- external tools (eg access control devices)</li> </ul> <p>2.2 Comply with organisational security procedures.</p>			

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<b>Unit title:</b>	<b>Security of ICT Systems</b>
<b>Unit code:</b>	317
<b>Unit reference number:</b>	D/500/7220
<b>Level:</b>	3
<b>Credit value:</b>	12
<b>Guided learning hours:</b>	100

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### **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**

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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>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</p>	<p>1.1 Describe the common types of security breach that can affect the organisation, such as:</p> <ul style="list-style-type: none"> <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 (eg denial of service attack).</li> </ul> <p>1.3 Describe specified data protection methods:</p> <ul style="list-style-type: none"> <li>- system data security facilities</li> <li>- surveillance and monitoring methods</li> <li>- effects of system configuration on data protection.</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>1.4 Describe specified methods of providing physical security for ICT systems:</p> <ul style="list-style-type: none"> <li>- access control devices (eg locks, biometric controls, CCTV) and their configuration</li> <li>- limiting visibility of data (eg by positioning of monitors, using encryption)</li> <li>- shielding (eg cable screening, Faraday cages)</li> <li>- types and appropriate uses of access records and authorisations</li> <li>- how to allocate access authority.</li> </ul> <p>1.4 Describe relevant organisational security procedures</p>			
2 Apply security measures	<p>2.1 Configure and apply specified security tools to identify and prevent breaches of security, such as:</p> <ul style="list-style-type: none"> <li>- internal system tools (eg passwords and permissions, malware scanning, firewall, VPN, authentication and encryption facilities)</li> <li>- external tools (eg access control devices).</li> </ul>			
3 Monitor security procedures	<p>3.1 Assist in ensuring compliance with organisational security procedures, including:</p> <ul style="list-style-type: none"> <li>- participating in security audits</li> <li>- gathering and recording information on security</li> <li>- initiating suitable actions to deal with identified breaches of security.</li> </ul>			

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<b>Unit title:</b>	<b>Security of ICT Systems</b>
<b>Unit code:</b>	417
<b>Unit reference number:</b>	H/500/7221
<b>Level:</b>	4
<b>Credit value:</b>	15
<b>Guided learning hours:</b>	90

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### **Unit summary**

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

### **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

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
1	Understand the security threats to an IT system, their operational impact and the methods available to combat them	1.1 Describe the data protection methods that are relevant to the organisation 1.2 Describe physical security methods in use 1.3 Describe organisational security procedures 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 procedures	3.1 Schedule and carry out security risk assessments 3.2 Select appropriate security tools for the organisation or department to use			

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<b>Unit title:</b>	<b>Software Installation and Upgrade</b>
<b>Unit code:</b>	118
<b>Unit reference number:</b>	D/500/7265
<b>Level:</b>	1
<b>Credit value:</b>	6
<b>Guided learning hours:</b>	50

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### **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**

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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Understand specified parts of the installation/upgrade process</p>	<p>1.1 Describe specified installation/upgrade procedures to include:</p> <ul style="list-style-type: none"> <li>- installation</li> <li>- configuration</li> <li>- testing</li> <li>- delivery, shipping and storage</li> <li>- escalation.</li> </ul>			
<p>2 Install and upgrade software</p>	<p>1.1 Follow specified installation/upgrade procedures</p> <p>1.2 Use specified software loading facilities</p> <p>1.3 Record information relating to the:</p> <ul style="list-style-type: none"> <li>- software installed/upgraded</li> <li>- licences</li> <li>- registration</li> <li>- installation details</li> <li>- configuration</li> <li>- testing.</li> </ul>			

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<b>Unit title:</b>	<b>Software Installation and Upgrade</b>
<b>Unit code:</b>	218
<b>Unit reference number:</b>	D/500/7329
<b>Level:</b>	2
<b>Credit value:</b>	9
<b>Guided learning hours:</b>	80

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### **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**

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

Learning outcomes	Assessment criteria	Evidence type	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: <ul style="list-style-type: none"> <li>- procedures to be followed</li> <li>- procedures for information recording</li> <li>- software storage locations to be used</li> <li>- specifications of the software.</li> </ul> 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			

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<b>Unit title:</b>	<b>Software Installation and Upgrade</b>
<b>Unit code:</b>	318
<b>Unit reference number:</b>	R/500/7330
<b>Level:</b>	3
<b>Credit value:</b>	12
<b>Guided learning hours:</b>	100

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### **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**

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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Understand the installation/upgrade process	1.1 Describe the software installation and upgrade process including: <ul style="list-style-type: none"> <li>- procedures to be followed</li> <li>- procedures for information recording</li> <li>- software storage locations to be used</li> <li>- specifications of the software.</li> </ul> 1.2 Describe the capabilities of software loading facilities			
2 Carry out or control a wide range of installations or upgrades.	2.1 Provide guidance on installation/upgrade procedures to immediate colleagues 2.2 Obtain and allocate required materials 2.3 Select the installation/upgrade procedures to be followed 2.4 Select software loading facilities to be used			

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<b>Unit title:</b>	<b>System Management</b>
<b>Unit code:</b>	219
<b>Unit reference number:</b>	Y/500/7331
<b>Level:</b>	2
<b>Credit value:</b>	6
<b>Guided learning hours:</b>	55

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### **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**

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

Learning 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  1.2 Explain what ICT asset and configuration information is to be recorded such as: – physical attributes (eg manufacturer, type, revision, serial number, location, value) – configuration (eg physical and logical addresses, options set, connections).			
2 Change system configurations	2.1 Make specified changes to system configuration  2.2 Gather and record ICT asset and configuration information for specified items			

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<b>Unit title:</b>	<b>System Management</b>
<b>Unit code:</b>	319
<b>Unit reference number:</b>	D/500/7332
<b>Level:</b>	3
<b>Credit value:</b>	12
<b>Guided learning hours:</b>	100

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### **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 3 can administer a system.

### **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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Understand how to administer a system	1.1 Describe how to configure the system. 1.2 Describe ICT asset and configuration information applicable to the system such as: <ul style="list-style-type: none"> <li>- Physical attributes (eg manufacturer, type, revision, serial number, location, value)</li> <li>- Configuration (eg physical and logical addresses, options set, connections).</li> </ul> 1.3 Describe how available options for system configuration affect functionality and capacity			
2 Administer a system and change system configurations	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			

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<b>Unit title:</b>	<b>System Operation</b>
<b>Unit code:</b>	120
<b>Unit reference number:</b>	H/500/7333
<b>Level:</b>	1
<b>Credit value:</b>	6
<b>Guided learning hours:</b>	50

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### 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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment 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: <ul style="list-style-type: none"> <li>- required service levels (eg availability, quality)</li> <li>- routine maintenance</li> <li>- monitoring</li> <li>- data integrity (eg backups, anti-virus)</li> <li>- consumables use, storage &amp; disposal</li> <li>- health and safety</li> <li>- escalation</li> <li>- information recording and reporting</li> <li>- obtaining work permissions</li> <li>- security &amp; confidentiality.</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Operate specified parts of the system	2.1 Describe how to operate specified parts of the system, such as: <ul style="list-style-type: none"> <li>- operating parts of the system following specified procedures</li> <li>- identifying and reporting system faults</li> <li>- recording specified operational information</li> <li>- how to recognise system faults.</li> </ul> 2.2 Assess and minimise risks related to your own actions such as: <ul style="list-style-type: none"> <li>- loss or corruption of data</li> <li>- loss of service</li> <li>- damage to equipment.</li> </ul>			

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<b>Unit title:</b>	<b>ICT System Operation</b>
<b>Unit code:</b>	220
<b>Unit reference number:</b>	F/500/7338
<b>Level:</b>	2
<b>Credit value:</b>	9
<b>Guided learning hours:</b>	45

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### **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**

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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Know the relevant parts of the operating system</p>	<p>1.1 Describe the relevant parts of operating procedures:</p> <ul style="list-style-type: none"> <li>- required service levels (eg availability, quality)</li> <li>- routine maintenance</li> <li>- monitoring</li> <li>- data integrity (eg 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> </ul> <p>1.2 Describe the functionality of relevant parts of the system.</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Operate specified parts of the system	2.1 Operate specified parts of the system: <ul style="list-style-type: none"> <li>- operating specified system parts following procedures</li> <li>- recognising, resolving or escalating system faults</li> <li>- gathering and recording specified operational information.</li> </ul> 2.2 Assess and minimize risks related to your own actions such as: <ul style="list-style-type: none"> <li>- loss or corruption of data</li> <li>- loss of service</li> <li>- damage to equipment.</li> </ul>			

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<b>Unit title:</b>	<b>System Operation</b>
<b>Unit code:</b>	320
<b>Unit reference number:</b>	A/500/7340
<b>Level:</b>	3
<b>Credit value:</b>	12
<b>Guided learning hours:</b>	100

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### **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**

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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Know how to operate the system	1.1 Explain the operating procedures that are applicable to the system, such as: <ul style="list-style-type: none"> <li>- required service levels (eg availability, quality);</li> <li>- routine maintenance;</li> <li>- monitoring;</li> <li>- data integrity (eg backups, anti-virus);</li> <li>- consumables use, storage &amp; disposal;</li> <li>- Health &amp; Safety;</li> <li>- escalation;</li> <li>- information recording and reporting;</li> <li>- obtaining work permissions;</li> <li>- security &amp; confidentiality.</li> </ul> 1.2 Describe system functionality during normal operation. 1.3 Describe the effects of operational activities on system functionality.			

Learning outcomes	Assessment criteria	Evidence type	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 style="list-style-type: none"> <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 procedures	3.1 Provide advice and guidance on system operation to immediate colleagues 3.2 Select the procedures to be followed 3.3 Schedule operational activities to minimise disruption to system functionality. 3.4 Collate operational information			

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<b>Unit title:</b>	<b>Technical Advice and Guidance</b>
<b>Unit code:</b>	221
<b>Unit reference number:</b>	F/601/3506
<b>Level:</b>	2
<b>Credit value:</b>	9
<b>Guided learning hours:</b>	50

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### **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**

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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Know how to provide technical advice and guidance</p>	<p>1.1 Identify how technical advice and guidance can be used</p> <p>1.2 List the types of information which can form the basis of technical advice and guidance</p> <p>1.3 Identify organisational procedures which can apply to the provision of technical advice and guidance</p> <p>1.4 Identify circumstances where technical advice and guidance should be provided proactively rather than reactively in response to customer requests (eg to rectify known faults, to provide new functionality)</p>			
<p>2 Provide reactive technical advice and guidance to customers on a range of topics</p>	<p>2.1 Identify the purposes for which technical advice and guidance is required</p> <p>2.2 Check that customers are entitled to receive the requested technical advice and guidance</p> <p>2.3 Communicate effectively with customers to obtain specified information to enable correct technical advice and guidance to be provided</p> <p>2.4 Interpret given technical information to produce advice and guidance in response to customer requests</p>			

Learning outcomes	Assessment criteria	Evidence type	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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<b>Unit title:</b>	<b>Technical Advice and Guidance</b>
<b>Unit code:</b>	321
<b>Unit reference number:</b>	J/601/3507
<b>Level:</b>	3
<b>Credit value:</b>	12
<b>Guided learning hours:</b>	75

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### **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**

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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Understand the context for providing technical advice and guidance</p>	<p>1.1 Describe how technical advice and guidance can be used to:</p> <ul style="list-style-type: none"> <li>- resolve problems</li> <li>- improve performance.</li> </ul> <p>1.2 Describe the types, sources and applicability of information which can form the basis of technical advice and guidance:</p> <ul style="list-style-type: none"> <li>- information from reference sources (eg manuals, handbooks, manufacturer's specifications)</li> <li>- information derived from the analysis of data (eg trend analysis, fault logs)</li> <li>- online information (eg manufacturer's websites, technical fora, discussion groups).</li> </ul> <p>1.3 Describe the procedures and constraints which can apply to the provision of technical advice and guidance (eg escalation, commercial/contractual, legal/regulatory, information security)</p> <p>1.4 Identify circumstances where technical advice and guidance should be provided proactively rather than reactively in response to customer requests (eg to rectify known faults, to provide new functionality)</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Provide reactive technical advice and guidance to customers on a range of topics	2.1 Determine the purposes for which technical advice and guidance is required 2.2 Verify that customers are entitled to receive the requested technical advice and guidance 2.3 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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Provide proactive technical advice and guidance to customers	3.1 Identify the purposes for which the technical advice and guidance is required 3.2 Identify the customers, and their level of technical knowledge, to whom the technical advice and guidance should be provided 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			

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<b>Unit title:</b>	<b>Technical Advice and Guidance</b>
<b>Unit code:</b>	421
<b>Unit reference number:</b>	Y/500/7345
<b>Level:</b>	4
<b>Credit value:</b>	15
<b>Guided learning hours:</b>	90

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### **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**

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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Control the provision of technical advice and guidance</p>	<p>1.1 Ensure that organisational procedures for providing technical advice and guidance are followed:</p> <ul style="list-style-type: none"> <li>- resolve problems</li> <li>- improve performance.</li> </ul> <p>1.2 Describe the types, sources and applicability of information which can form the basis of technical advice and guidance:</p> <ul style="list-style-type: none"> <li>- information from reference sources (eg manuals, handbooks, manufacturer's specifications)</li> <li>- information derived from the analysis of data (eg trend analysis, fault logs)</li> <li>- online information (eg manufacturer's websites, technical fora, discussion groups).</li> </ul> <p>1.3 Describe the procedures and constraints which can apply to the provision of technical advice and guidance (eg escalation, commercial/contractual, legal/regulatory, information security)</p> <p>1.4 Identify circumstances where technical advice and guidance should be provided proactively rather than reactively in response to customer requests (eg to rectify known faults, to provide new functionality)</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Provide reactive technical advice and guidance to customers on a range of topics	2.1 Determine the purposes for which technical advice and guidance is required 2.2 Verify that customers are entitled to receive the requested technical advice and guidance 2.3 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 can not be provided or does not resolve the request			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Provide proactive technical advice and guidance to customers	3.1 Identify the purposes for which the technical advice and guidance is required 3.2 Identify the customers, and their level of technical knowledge, to whom the technical advice and guidance should be provided 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			

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<b>Unit title:</b>	<b>Testing ICT Systems</b>
<b>Unit code:</b>	122
<b>Unit reference number:</b>	T/500/7353
<b>Level:</b>	1
<b>Credit value:</b>	6
<b>Guided learning hours:</b>	50

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### **Unit summary**

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

### **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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>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</p>	<p>1.1 Describe relevant parts of the testing process:</p> <ul style="list-style-type: none"> <li>- testing tools to be used</li> <li>- work procedures to be followed (including obtaining authorisations)</li> <li>- procedures for recording information.</li> </ul> <p>1.2 Describe the purposes of testing</p> <ul style="list-style-type: none"> <li>- checking functionality</li> <li>- obtaining performance information.</li> </ul> <p>1.3 Describe specified test preparation and conclusion activities, including:</p> <ul style="list-style-type: none"> <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 (eg disposal of materials)</li> <li>- work sign-off and reporting</li> <li>- site restoration.</li> </ul> <p>1.4 Interpret specified technical information about the test and equipment to be tested</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Assist testing under direction and record accurately test results	2.1 Carry out specified preparation and conclusion activities, eg: <ul style="list-style-type: none"> <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 (eg disposal of materials)</li> <li>- work sign-off and reporting</li> <li>- site restoration.</li> </ul> 2.2 Use specified testing tools, eg: <ul style="list-style-type: none"> <li>- electrical/electronic test instruments</li> <li>- on-board self-test programs</li> <li>- diagnostic software.</li> </ul> 2.3 Record specified test information and test results			

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<b>Unit title:</b>	<b>Testing ICT Systems</b>
<b>Unit code:</b>	222
<b>Unit reference number:</b>	A/500/7354
<b>Level:</b>	2
<b>Credit value:</b>	9
<b>Guided learning hours:</b>	80

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### **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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Know technical information about a range of products, testing procedures and associated activities, equipment to be used and the reasons for the test</p>	<p>1.1 Describe the testing process to be followed:</p> <ul style="list-style-type: none"> <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> </ul> <p>1.2 Describe the purposes of testing, eg:</p> <ul style="list-style-type: none"> <li>- aiding the diagnostic process</li> <li>- comparing actual and expected performance.</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>1.3 Describe relevant test preparation and conclusion activities, such as:</p> <ul style="list-style-type: none"> <li>- health and safety legislation and regulations</li> <li>- need to obtain work permissions</li> <li>- site access and security</li> <li>- system or equipment integrity (eg ensuring network service continuity)</li> <li>- data integrity (eg taking data backups before commencing work)</li> <li>- resource availability</li> <li>- level of service allowed by the SLA</li> <li>- environmental legislation and regulations (eg disposal of materials)</li> <li>- work sign-off and reporting</li> <li>- site restoration</li> <li>- system and equipment integrity (eg restoring service)</li> <li>- data integrity (eg restoring data backups as necessary).</li> </ul> <p>1.4 Interpret technical information on a specified range of products.</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Carry out routine testing and assist in other testing	2.1 Ensure relevant preparation and conclusion activities have been carried out (see list above)  2.2 Use appropriate testing tools, such as: <ul style="list-style-type: none"> <li>- electrical/electronic test instruments</li> <li>- on-board self-test programs</li> <li>- loopback devices</li> <li>- on-line/remote monitoring software</li> <li>- software debuggers</li> <li>- runtime analysers</li> <li>- diagnostic software.</li> </ul> 2.3 Gather and record relevant test information and test results, including: <ul style="list-style-type: none"> <li>- identifying the relevant information</li> <li>- using approved sources of information</li> <li>- validating information.</li> </ul> 2.4 Respond to test information and results: <ul style="list-style-type: none"> <li>- interpreting error codes/messages</li> <li>- comparing with specifications</li> <li>- identifying inconsistent data.</li> </ul>			

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<b>Unit title:</b>	<b>Testing ICT Systems</b>
<b>Unit code:</b>	322
<b>Unit reference number:</b>	F/500/7355
<b>Level:</b>	3
<b>Credit value:</b>	12
<b>Guided learning hours:</b>	100

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### **Unit summary**

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

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>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</p>	<p>1.1 Describe the testing process to be followed:</p> <ul style="list-style-type: none"> <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> <p>2.3 Describe the purposes of testing:</p> <ul style="list-style-type: none"> <li>- aiding the diagnostic process</li> <li>- comparing actual and expected performance</li> <li>- testing performance.</li> </ul>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
	<p>2.4 Describe what test preparation and conclusion activities are necessary for specific tests, such as:</p> <ul style="list-style-type: none"> <li>- health and safety legislation and regulations</li> <li>- need to obtain work permissions</li> <li>- site access and security</li> <li>- system or equipment integrity (eg ensuring network service continuity)</li> <li>- data integrity (eg taking data backups before commencing work)</li> <li>- resource availability</li> <li>- level of service allowed by the SLA</li> <li>- environmental legislation and regulations (eg disposal of materials)</li> <li>- work sign-off and reporting</li> <li>- site restoration</li> <li>- system and equipment integrity (eg restoring service)</li> <li>- data integrity (eg restoring data backups as necessary).</li> </ul> <p>1.4 Interpret detailed technical information on a specified range of products</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Carry out testing and support others in the testing process	2.1 Provide technical advice to support testing 2.2 Select any necessary preparation and conclusion activities and ensure that they have been completed 2.3 Select, adapt and use appropriate testing tools: <ul style="list-style-type: none"> <li>- electrical/electronic test instruments</li> <li>- on-board self-test programs</li> <li>- loopback devices</li> <li>- on-line/remote monitoring software</li> <li>- software debuggers</li> <li>- runtime analysers</li> <li>- diagnostic software.</li> </ul> 2.5 Gather, record and respond to test information and results by: <ul style="list-style-type: none"> <li>- interpreting error codes/messages</li> <li>- comparing with specifications</li> <li>- identifying inconsistent data</li> <li>- examining results from multiple tests or trend analysis</li> <li>- using analytical tools to extract information from test data.</li> </ul>			

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<b>Unit title:</b>	<b>User Profile Administration</b>
<b>Unit code:</b>	223
<b>Unit reference number:</b>	H/500/7378
<b>Level:</b>	2
<b>Credit value:</b>	6
<b>Guided learning hours:</b>	55

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### **Unit summary**

This is the ability to specify and configure user profiles.

### **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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Know how to assist in the administration of user profiles	1.1 Describe how to make changes to user profiles, such as: <ul style="list-style-type: none"> <li>- user identifier (eg username)</li> <li>- password and related information (eg change frequency)</li> <li>- allowed system access (eg times, locations)</li> <li>- allowed access to facilities (eg data, software).</li> </ul>			
2 Assist in the administration of user profiles	2.1 Make specified changes to user profiles			

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<b>Unit title:</b>	<b>User Profile Administration</b>
<b>Unit code:</b>	323
<b>Unit reference number:</b>	K/500/7379
<b>Level:</b>	3
<b>Credit value:</b>	9
<b>Guided learning hours:</b>	80

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### **Unit summary**

This is the ability to specify and configure user profiles.

### **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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Know how to administer user profiles</p>	<p>1.1 Describe the organisational policy on user profiles such as:</p> <ul style="list-style-type: none"> <li>- user identifier (eg username)</li> <li>- password and related information (eg change frequency)</li> <li>- allowed system access (eg times, locations)</li> <li>- allowed access to facilities (eg data, software).</li> </ul> <p>1.2 Describe how to create and edit user and standard profiles</p> <p>1.3 Describe how user profiles affect access to system facilities, such as:</p> <ul style="list-style-type: none"> <li>- shared resources (eg data storage, printers)</li> <li>- software</li> <li>- data.</li> </ul>			
<p>2 Administer user profiles</p>	<p>2.1 Make specified changes to user profiles</p> <p>2.2 Specify user profiles to meet individual requirements</p> <p>2.3 Create standard profiles for groups of users</p> <p>2.4 Provide guidance on user profiles to immediate colleagues</p>			

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**Unit title:** Using and Managing Bowman Systems for Advanced Signallers

**Unit code:** 324

**Unit reference number:** K/501/3912

**Level:** 3

**Credit value:** 19

**Guided learning hours:** 150

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### **Unit summary**

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

### **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 and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Be able to command a radio detachment	1.1 Extract information from a briefing/orders group 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			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
2	Manage BOWMAN and non BOWMAN equipment	2.1 Demonstrate how to maintain a sub-unit account of radios and associated equipment 2.2 Carry out functional tests on radio 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 battery charging	3.1 Establish DC (Direct Current) battery charging areas 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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
5 Advise on 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 Establish communication using re-broadcast facilities	6.1 Operate communication systems to a number of outstations 6.2 Operate as a local re-broadcast using any two communication systems to a number of outstations			
7 Operate the Communication Information Handler (CIH) application	7.1 Prepare the CIH application for operation 7.2 Operate 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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
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 Operate the Local Area Sub-system (LAS)	10.1 Demonstrate how to prepare the simple harness 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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
11 Be able to manage unit/sub-unit signals training	11.1 Identify and plan unit or sub-unit signal training needs 11.2 Select appropriate methods of instruction 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 Attend briefings on BOWMAN Digitization functionality	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)			

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<b>Unit title:</b>	<b>Designing and Developing a Website</b>
<b>Unit code:</b>	425
<b>Unit reference number:</b>	L/601/3315
<b>Level:</b>	4
<b>Credit value:</b>	15
<b>Guided learning hours:</b>	90

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### **Unit summary**

To provide the learner with the skills and competencies to carry out a Website development from design to testing in a professional capacity, and to understand a range of issues concerned with Web development activities.

### **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 and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Design a website to address loosely-defined requirements	1.1 Identify the key design features inherent within a requirements specification 1.2 Use planning tools and techniques to create a site map 1.3 Evaluate different design models and select the most appropriate to meet requirements			
2 Use web development tools to build (X)HTML and CSS-based websites to address well-defined specifications	2.1 Describe the use of (X)HTML to develop websites 2.2 Describe how to use CSS to standardise the overall style of a website 2.3 Write the source code for a simple web page in clean XHTML according to a specification 2.4 Write the source code for a CSS according to a specification 2.5 Explain the contextual application of a variety of web development tools 2.6 Explain the advantages and disadvantages of various web development methodologies and technologies			

Learning outcomes		Assessment criteria	Evidence type	Portfolio reference	Date
3	Understand the technology and tools needed to use multimedia in the context of a website	3.1 Explain the advantages and disadvantages of various types of multimedia file format 3.2 Explain the advantages and disadvantages of different types of multimedia element in relation to different contexts 3.3 Embed functional multimedia components in an (X)HTML site			
4	Develop test strategies and apply these to a website	4.1 Develop and apply a test strategy consistent with the design 4.2 Determine expected test results 4.3 Record actual test results to enable comparison with expected results 4.4 Analyse actual test results against expected results to identify discrepancies 4.5 Investigate test discrepancies to identify and rectify their causes 4.6 Explain the need for testing on different platforms and browsers			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
5 Understand the need for Web standards	5.1 Explain the role of the W3C 5.2 Explain W3C standards and their application in site coding 5.3 Discuss web accessibility and usability issues from the viewpoint of an IT professional.			
6 Understand the concepts associated with using the internet and the World Wide Web for business	6.1 Explain the underlying physical and operational properties of the internet and World Wide Web, including the difference between the two 6.2 Discuss the internet and the Web as a business tool, including (but not limited to) as a tool for communications, research, sales and marketing. 6.3 Discuss the advantages and disadvantages of various internet-based models, in different contexts 6.4 Discuss the advantages and disadvantages of various ecommerce models, in different contexts			

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<b>Unit title:</b>	<b>Database Software</b>
<b>Unit code:</b>	126
<b>Unit reference number:</b>	H/502/4553
<b>Level:</b>	1
<b>Credit value:</b>	3
<b>Guided learning hours:</b>	20

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### Unit summary

This is the ability to use a software application designed to organise and store structured information and generate reports.

This unit is about the skills and knowledge required by an IT user to use database software tools and techniques to:

- enter straightforward or routine information into a database
- set up a single table in a flat file database
- retrieve information by running routine queries
- produce reports using predefined menus or short cuts.

The structure and functionality of the database will be predefined. Any aspects that are unfamiliar will require support and advice from others.

Database tools and techniques will be described as 'basic' because:

- the tools and functions will be predefined or commonly used
- the techniques for inputting, 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**

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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Enter, edit and organise structured information in a database	1.1 Identify the main components of a database 1.2 Create a database table for a purpose using specified fields 1.3 Enter structured data into records to meet requirements 1.4 Locate and amend data records 1.5 Respond appropriately to data entry error messages 1.6 Check data meets needs, using IT tools and making corrections as necessary			
2 Use database software tools to extract information and produce reports	2.1 Identify queries which meet information requirements 2.2 Run simple database queries 2.3 Identify reports which meet information requirements 2.4 Generate and print pre-defined database reports			

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<b>Unit title:</b>	<b>Database Software</b>
<b>Unit code:</b>	226
<b>Unit reference number:</b>	M/502/4555
<b>Level:</b>	2
<b>Credit value:</b>	4
<b>Guided learning hours:</b>	30

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### Unit summary

This is the ability to use a software application designed to organise and store structured information and generate reports.

This unit is about the skills and knowledge required by an IT user to select and use intermediate database software tools and techniques to:

- enter information into databases, that is at times non-routine or unfamiliar
- retrieve information by creating queries using multiple selection criteria
- produce reports by setting up menus or shortcuts.

They will also be able to create and modify single table, non-relational databases. Any aspects that are unfamiliar may require support and advice from others.

Database tools, functions and techniques will be described as 'intermediate' because:

- the software tools and functions involved will at times be 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.

### 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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Create and modify non-relational database tables	1.1 Identify the components of a database design 1.2 Describe the field characteristics for the data required 1.3 Create and modify database tables using a range of field types 1.4 Describe ways to maintain data integrity 1.5 Respond appropriately to problems with database tables 1.6 Use database tools and techniques to ensure data integrity is maintained			
2 Enter, edit and organise structured information in a database	2.1 Create forms to enter, edit and organise data in a database 2.2 Select and use appropriate tools and techniques to format data entry forms 2.3 Check data entry meets needs, using IT tools and making corrections as necessary 2.4 Respond appropriately to data entry errors			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Use database software tools to run queries and produce reports	3.1 Create and run database queries using multiple criteria to display or amend selected data 3.2 Plan and produce database reports from a single table non-relational database 3.3 Select and use appropriate tools and techniques to format database reports 3.4 Check reports meet needs, using IT tools and making corrections as necessary			

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<b>Unit title:</b>	<b>Database Software</b>
<b>Unit code:</b>	326
<b>Unit reference number:</b>	T/502/4556
<b>Level:</b>	3
<b>Credit value:</b>	6
<b>Guided learning hours:</b>	45

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### Unit summary

This is the ability to use a software application designed to organise and store structured information and generate reports.

This unit is about the skills and knowledge required by an IT user to select and use advanced database software tools and techniques efficiently to:

- enter complex information into databases
- retrieve information by creating queries using multiple selection criteria
- produce reports by setting up menus or shortcuts
- design, create and interrogate multiple-table relational databases.

Database tools, functions and techniques will be described as 'advanced' because:

- the software tools and functions involved 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 (eg improve efficiency or create an effect), exploring technical support, self-teaching and applying
- the input, manipulation and output techniques involved will be complex, which will involve research, identification and application.

### 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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Plan, create and modify relational database tables to meet requirements	1.1 Explain how a relational database design enables data to be organised and queried 1.2 Plan and create multiple tables for data entry with appropriate fields and properties 1.3 Set up and modify relationships between database tables 1.4 Explain why and how to maintain data integrity 1.5 Respond appropriately to problems with database tables 1.6 Use database tools and techniques to ensure data integrity is maintained			
2 Enter, edit and organise structured information in a database	2.1 Design and create forms to access, enter, edit and organise data in a database 2.2 Select and use appropriate tools and techniques to format data entry forms 2.3 Check data entry meets needs, using IT tools and making corrections as necessary 2.4 Respond appropriately to data entry errors			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Use database software tools to create, edit and run data queries and produce reports	3.1 Explain how to select, generate and output information from queries according to requirements 3.2 Create and run database queries to display, amend or calculate selected data 3.3 Plan and produce database reports from a multiple-table relational database 3.4 Select and use appropriate tools and techniques to format database reports 3.5 Check reports meet needs, using IT tools and making corrections as necessary			

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<b>Unit title:</b>	<b>Using Email</b>
<b>Unit code:</b>	127
<b>Unit reference number:</b>	J/502/4299
<b>Level:</b>	1
<b>Credit value:</b>	2
<b>Guided learning hours:</b>	15

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### **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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	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			

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<b>Unit title:</b>	<b>Using Email</b>
<b>Unit code:</b>	227
<b>Unit reference number:</b>	M/502/4300
<b>Level:</b>	2
<b>Credit value:</b>	3
<b>Guided learning hours:</b>	20

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### 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.

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.

## Learning outcomes and assessment criteria

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

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**Unit title:** Using Email

**Unit code:** 327

**Unit reference number:** T/502/4301

**Level:** 3

**Credit value:** 3

**Guided learning hours:** 20

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### 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 (eg address books) to send emails to individuals, sending, receiving and opening attachments (eg digital pictures, word processing documents or spreadsheets).
- using more advanced email facilities (eg 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 (eg 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.

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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Use email software tools and techniques to compose and send messages	1.1 Select and use software tools to compose and format email messages, including attachments 1.2 Explain methods to improve message transmission 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 2.8 Respond appropriately to email problems			

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<b>Unit title:</b>	<b>Using the Internet</b>
<b>Unit code:</b>	128
<b>Unit reference number:</b>	T/502/4296
<b>Level:</b>	1
<b>Credit value:</b>	3
<b>Guided learning hours:</b>	20

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### 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.

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.

## Learning outcomes and assessment criteria

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 navigate web pages	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 from the internet	3.1 Select and use appropriate search techniques to locate information 3.2 Outline how information meets requirements 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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
4 Use browser software to communicate information online	4.1 Select and use tools and techniques to communicate information online 4.2 Use browser tools to share information sources with others 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 the need for safety and security practices when working online	5.1 Identify the threats to user safety when working online 5.2 Outline how to minimise internet security risks 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			

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<b>Unit title:</b>	<b>Using the Internet</b>
<b>Unit code:</b>	228
<b>Unit reference number:</b>	A/502/4297
<b>Level:</b>	2
<b>Credit value:</b>	4
<b>Guided learning hours:</b>	30

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### 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.

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.

## Learning outcomes and assessment criteria

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 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 from the internet	3.1 Select and use appropriate search techniques to locate information efficiently 3.2 Describe how well information meets requirements 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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
4 Use browser software to communicate information online	4.1 Identify opportunities to create, post or publish material to websites 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 intranet to access, retrieve and exchange relevant information of different types.	5.1 Searching for information on the internet or an intranet 5.2 Find and evaluate information 5.3 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			

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<b>Unit title:</b>	<b>Using the Internet</b>
<b>Unit code:</b>	328
<b>Unit reference number:</b>	F/502/4298
<b>Level:</b>	3
<b>Credit value:</b>	5
<b>Guided learning hours:</b>	40

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### 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, self-teaching 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**

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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Select and set up an appropriate connection to access the internet	1.1 Identify different types of connection methods that can be used 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 pages	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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Use browser tools to search effectively and efficiently for information from the internet	3.1 Select and use appropriate search techniques to locate information efficiently 3.2 Evaluate how well information meets requirements 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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
5 Develop and apply appropriate safety and security practices and procedures when working online	5.1 Explain the threats to system performance when working online 5.2 Work responsibly and take appropriate safety and security precautions when 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 5.7 Develop and promote laws, guidelines and procedures for safe and secure use of the internet			

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<b>Unit title:</b>	<b>Presentation Software</b>
<b>Unit code:</b>	129
<b>Unit reference number:</b>	K/502/4621
<b>Level:</b>	1
<b>Credit value:</b>	3
<b>Guided learning hours:</b>	20

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### **Unit summary**

This is the ability to use software applications to produce effective presentations, which include a combination of media (eg 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**

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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Input and combine text and other information within presentation slides	1.1 Identify what types of information are required for the presentation 1.2 Select and use different slide layouts as appropriate for different types of information 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 Use presentation software tools to structure, edit and format slides	2.1 Identify what slide structure to use 2.2 Select and use an appropriate template to structure slides 2.3 Select and use appropriate techniques to edit slides 2.4 Select and use appropriate techniques to format slides			

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

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<b>Unit title:</b>	<b>Presentation Software</b>
<b>Unit code:</b>	229
<b>Unit reference number:</b>	M/502/4622
<b>Level:</b>	2
<b>Credit value:</b>	4
<b>Guided learning hours:</b>	30

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### Unit summary

This is the ability to use software applications to produce effective presentations, which include a combination of media (eg 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**

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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Input and combine text and other information within presentation slides	1.1 Identify 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 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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
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 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			

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<b>Unit title:</b>	<b>Presentation Software</b>
<b>Unit code:</b>	329
<b>Unit reference number:</b>	T/502/4623
<b>Level:</b>	3
<b>Credit value:</b>	6
<b>Guided learning hours:</b>	45

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### Unit summary

This is the ability to use software applications to produce effective presentations, which include a combination of media (eg 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 (eg 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**

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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Use presentation 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 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 Prepare interactive slideshow for presentation	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			

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<b>Unit title:</b>	<b>Spreadsheet Software</b>
<b>Unit code:</b>	130
<b>Unit reference number:</b>	A/502/4624
<b>Level:</b>	1
<b>Credit value:</b>	3
<b>Guided learning hours:</b>	20

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### Unit summary

This is the ability to use a software application designed to record data in rows and columns, perform calculations with numerical data and present information using charts and graphs.

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

Spreadsheet software tools and techniques will be described as 'basic' because:

- the range of data entry, manipulation, formatting and outputting techniques are straightforward
- the tools, formulas and functions involved will be predetermined or commonly used (for example, add, divide, multiply and subtract)
- the structure and functionality of the spreadsheet will be predetermined or familiar.

### 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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Use a spreadsheet to enter, edit and organise numerical and other data</p>	<p>1.1 Identify what numerical and other information is needed and how the spreadsheet should be structured to meet needs</p> <p>1.2 Enter and edit numerical and other data accurately</p> <p>1.3 Store and retrieve spreadsheet files effectively, in line with local guidelines and conventions where available</p>			
<p>2 Use appropriate formulas and tools to summarise and display spreadsheet information</p>	<p>2.1 Identify how to summarise and display the required information</p> <p>2.2 Use functions and formulas to meet calculation requirements</p> <p>2.3 Use spreadsheet tools and techniques to summarise and display information</p>			
<p>3 Select and use appropriate tools and techniques to present spreadsheet information effectively</p>	<p>3.1 Select and use appropriate tools and techniques to format spreadsheet cells, rows and columns</p> <p>3.2 Identify which chart or graph type to use to display information</p> <p>3.3 Select and use appropriate tools and techniques to generate, develop and format charts and graphs</p> <p>3.4 Select and use appropriate page layout to present and print spreadsheet information</p> <p>3.5 Check information meets needs, using spreadsheet tools and making corrections as necessary</p>			

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<b>Unit title:</b>	<b>Spreadsheet Software</b>
<b>Unit code:</b>	230
<b>Unit reference number:</b>	F/502/4625
<b>Level:</b>	2
<b>Credit value:</b>	4
<b>Guided learning hours:</b>	30

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### Unit summary

This is the ability to use a software application designed to record data in rows and columns, perform calculations with numerical data and present information using charts and graphs.

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

Spreadsheet software tools and techniques will be described as 'intermediate' because:

- the range of data entry, manipulation and outputting techniques will be at times non-routine or unfamiliar
- the tools, formulas and functions needed to analyse and interpret the data requires knowledge and understanding (for example, mathematical, logical, statistical or financial)
- the user will take some responsibility for setting up or developing the structure and functionality of the spreadsheet.

### 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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Use a spreadsheet to enter, edit and organise numerical and other data	1.1 Identify what numerical and other information is needed in the spreadsheet and how it should be structured 1.2 Enter and edit numerical and other data accurately 1.3 Combine and link data across worksheets 1.4 Store and retrieve spreadsheet files effectively, in line with local guidelines and conventions where available			
2 Select and use appropriate formulas and data analysis tools to meet requirements	2.1 Identify which tools and techniques to use to analyse and manipulate data to meet requirements 2.2 Select and use a range of appropriate functions and formulas to meet calculation requirements 2.3 Use a range of tools and techniques to analyse and manipulate data to meet requirements			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Select and use tools and techniques to present and format spreadsheet information	3.1 Plan how to present and format spreadsheet information effectively to meet needs 3.2 Select and use appropriate tools and techniques to format spreadsheet cells, rows, columns and worksheets 3.3 Select and format an appropriate chart or graph type to display selected information 3.4 Select and use appropriate page layout to present and print spreadsheet information 3.5 Check information meets needs, using spreadsheet tools and making corrections as necessary 3.6 Describe how to find errors in spreadsheet formulas 3.7 Respond appropriately to any problems with spreadsheets			

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<b>Unit title:</b>	<b>Spreadsheet Software</b>
<b>Unit code:</b>	330
<b>Unit reference number:</b>	J/502/4626
<b>Level:</b>	3
<b>Credit value:</b>	6
<b>Guided learning hours:</b>	45

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### Unit summary

This is the ability to use a software application designed to record data in rows and columns, perform calculations with numerical data and present information using charts and graphs.

This unit is about the skills and knowledge required by an IT user to select and use a wide range of advanced spreadsheet software tools and techniques to produce, present and check complex and non-routine spreadsheets.

Spreadsheet software tools and techniques will be described as 'advanced' because:

- the range of data entry, manipulation and outputting techniques will be complex and non-routine
- the tools, formulas and functions needed to analyse and interpret the required information require complex and non-routine knowledge and understanding (for example, data restrictions, data validation using formula, pivot tables, data maps)
- the user will take full responsibility for setting up and developing the functionality of the spreadsheet.

### 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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Enter, edit and organise numerical and other data	1.1 Identify what numerical and other information is needed in the spreadsheet and how it should be structured 1.2 Enter and edit numerical and other data accurately 1.3 Combine and link data from different sources 1.4 Store and retrieve spreadsheet files effectively, in line with local guidelines and conventions where available			
2 Select and use appropriate formulas and data analysis tools and techniques to meet requirements	2.1 Explain what methods can be used to summarise, analyse and interpret spreadsheet data and when to use them 2.2 Select and use a wide range of appropriate functions and formulas to meet calculation requirements 2.3 Select and use a range of tools and techniques to analyse and interpret data to meet requirements 2.4 Select and use forecasting tools and techniques			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Use tools and techniques to present, and format and publish spreadsheet information	3.1 Explain how to present and format spreadsheet information effectively to meet needs 3.2 Select and use appropriate tools and techniques to format spreadsheet cells, rows, columns and worksheets effectively 3.3 Select and use appropriate tools and techniques to generate, develop and format charts and graphs 3.4 Select and use appropriate page layout to present, print and publish spreadsheet information 3.5 Explain how to find and sort out any errors in formulas 3.6 Check spreadsheet information meets needs, using IT tools and making corrections as necessary 3.7 Use auditing tools to identify and respond appropriately to any problems with spreadsheets			

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<b>Unit title:</b>	<b>Website Software</b>
<b>Unit code:</b>	131
<b>Unit reference number:</b>	L/502/4630
<b>Level:</b>	1
<b>Credit value:</b>	3
<b>Guided learning hours:</b>	20

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### Unit summary

This is the ability to use a software application designed for planning, designing and building websites.

This unit is about the skills and knowledge required by an IT user to use basic website software tools and techniques appropriately to produce straightforward or routine single web pages from pre-set templates. Any aspect that is unfamiliar will require support and advice from others.

Website software tools and techniques will be described as 'basic' because:

- the software tools and functions involved will be predefined or commonly used
- the range of inputting, manipulation and outputting techniques are straightforward or routine
- the template used for the content will be predetermined or familiar.

### 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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Plan and create web pages	1.1 Identify what content and layout will be needed in the web page 1.2 Identify the purpose of the webpage and intended audience 1.3 Select and use a website design template to create a single web page 1.4 Enter or insert content for web pages so that it is ready for editing and formatting 1.5 Organise and combine information needed for web pages 1.6 Identify copyright and other constraints on using others' information 1.7 Identify what file types to use for saving content 1.8 Store and retrieve web files effectively, in line with local guidelines and conventions where available			
2 Use website software tools to structure and format web pages	2.1 Identify what editing and formatting to use to aid both clarity and navigation 2.2 Select and use website features to help the user navigate simple websites 2.3 Use appropriate editing and formatting techniques 2.4 Check web pages meet needs, using IT tools and making corrections as necessary			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Publish web pages to the internet or an intranet	3.1 Upload content to a website 3.2 Respond appropriately to common problems when testing a web page			

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<b>Unit title:</b>	<b>Website Software</b>
<b>Unit code:</b>	231
<b>Unit reference number:</b>	R/502/4631
<b>Level:</b>	2
<b>Credit value:</b>	4
<b>Guided learning hours:</b>	30

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### Unit summary

This is the ability to use a software application designed for planning, designing and building websites.

This unit is about the skills and knowledge required by an IT user to select and use a wide range of intermediate website software tools and techniques to produce multiple-page websites. Any aspect that is unfamiliar may require support and advice from others.

Website software tools and techniques will be described as 'intermediate' because:

- the software tools and functions involved will at times be non-routine or unfamiliar
- the choice and use of development techniques will need to take account of a number of factors or elements
- the user will take some responsibility for planning the website, creating or altering the template, inputting, manipulating, linking and uploading the content.

### 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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Create structures and styles for websites	1.1 Describe what website content and layout will be needed for each page 1.2 Plan and create web page templates to layout 1.3 Select and use website features and structures to help the user navigate round web pages within the site 1.4 Create, select and use styles to keep the appearance of web pages consistent and make them easy to understand 1.5 Describe how copyright and other constraints may affect the website 1.6 Describe what access issues may need to be taken into account 1.7 Describe what file types to use for saving content 1.8 Store and retrieve files effectively, in line with local guidelines and conventions where available			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Use website software tools to prepare content for websites	2.1 Prepare content for web pages so that it is ready for editing and formatting 2.2 Organise and combine information needed for web pages including across different software 2.3 Select and use appropriate editing and formatting techniques to aid both clarity and navigation 2.4 Select and use appropriate development techniques to link information across pages 2.5 Change the file formats appropriately for content 2.6 Check web pages meet needs, using IT tools and making corrections as necessary			
3 Publish websites	3.1 Select and use appropriate testing methods to check that all elements of websites are working as planned 3.2 Identify any quality problems with websites and how to respond to them 3.3 Select and use an appropriate programme to upload and publish the website 3.4 Respond appropriately to problems with multiple page websites			

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<b>Unit title:</b>	<b>Website Software</b>
<b>Unit code:</b>	331
<b>Unit reference number:</b>	Y/502/4632
<b>Level:</b>	3
<b>Credit value:</b>	5
<b>Guided learning hours:</b>	40

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### **Unit summary**

This is the ability to use a software application designed for planning, designing and building websites.

This unit is about the skills and knowledge required by an IT user to select and use a range of advanced website software tools and techniques to develop multiple-page websites with multimedia and interactive features. Website software techniques will be described as 'advanced' because:

- the software tools and functions used will be complex and at times 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, self-teaching and applying
- the development techniques will be complex, and will involve research, identification and application
- the user will take full responsibility for planning and developing the structure, inputting, manipulating, adding multimedia or interactive features, uploading and publishing 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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Create structures and styles and use them to produce websites	1.1 Determine what website content and layout will be needed for each page and for the site 1.2 Plan and create web page templates to layout content 1.3 Select and use website features and structures to enhance website navigation and functionality 1.4 Create, select and use styles to enhance website consistency and readability 1.5 Provide guidance on laws, guidelines and constraints that affect the content and use of websites 1.6 Explain what access issues may need to be taken into account 1.7 Explain when and why to use different file types for saving content 1.8 Store and retrieve files effectively, in line with local guidelines and conventions where available			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>2 Select and use website software tools and features to develop multiple page websites with multimedia and interactive features</p>	<p>2.1 Prepare content for web pages so that it is ready for editing and formatting</p> <p>2.2 Organise and combine information needed for web pages in line with any copyright constraints, including across different software</p> <p>2.3 Select and use appropriate editing and formatting techniques to aid meaning</p> <p>2.4 Select and use appropriate programming and development techniques to add features and enhance websites</p> <p>2.5 Select and use file formats that make information easier to download</p> <p>2.6 Check web pages meet needs, using IT tools and making corrections as necessary</p>			
<p>3 Publish and test multiple page websites with multimedia and interactive features</p>	<p>3.1 Select and use appropriate testing methods to check that all elements and features of complex websites are working as planned</p> <p>3.2 Identify any quality problems with websites and explain how to respond to them</p> <p>3.3 Select and use an appropriate programme to upload and publish the website and make sure that it will download efficiently</p> <p>3.4 Respond appropriately to quality problems with websites to ensure outcomes are fit for purpose</p>			

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<b>Unit title:</b>	<b>Word Processing Software</b>
<b>Unit code:</b>	132
<b>Unit reference number:</b>	L/502/4627
<b>Level:</b>	1
<b>Credit value:</b>	3
<b>Guided learning hours:</b>	20

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### 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 be 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

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.

## Learning outcomes and assessment criteria

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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Use word processing software tools to format and present documents	3.1 Identify what formatting to use to enhance presentation of the document 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			

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<b>Unit title:</b>	<b>Word Processing software</b>
<b>Unit code:</b>	232
<b>Unit reference number:</b>	R/502/4628
<b>Level:</b>	2
<b>Credit value:</b>	4
<b>Guided learning hours:</b>	30

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### 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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Enter and combine text and other information accurately within word processing documents</p>	<p>1.1 Identify what types of information are needed in documents</p> <p>1.2 Use appropriate techniques to enter text and other information accurately and efficiently</p> <p>1.3 Select and use appropriate templates for different purposes</p> <p>1.4 Identify when and how to combine and merge information from other software or other documents</p> <p>1.5 Select and use a range of editing tools to amend document content</p> <p>1.6 Combine or merge information within a document from a range of sources</p> <p>1.7 Store and retrieve document and template files effectively, in line with local guidelines and conventions where available</p>			
<p>2 Create and modify layout and structures for word processing documents</p>	<p>2.1 Identify the document requirements for structure and style</p> <p>2.2 Identify what templates and styles are available and when to use them</p> <p>2.3 Create and modify columns, tables and forms to organise information</p> <p>2.4 Select and apply styles to text</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Use word processing software tools to format and present documents effectively to meet requirements	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			

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<b>Unit title:</b>	<b>Word Processing Software</b>
<b>Unit code:</b>	332
<b>Unit reference number:</b>	Y/502/4629
<b>Level:</b>	3
<b>Credit value:</b>	6
<b>Guided learning hours:</b>	45

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### 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 (eg 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**

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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Enter and combine text and other information accurately within word processing documents	1.1 Summarise what types of information are needed for the document and how they should be linked or integrated 1.2 Use appropriate techniques to enter text and other types of information accurately and efficiently 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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Create and modify appropriate layouts, structures and styles for word processing documents	2.1 Analyse and explain the requirements for structure and style 2.2 Create, use and modify columns, tables and forms to organise information 2.3 Define and modify styles for document elements 2.4 Select and use tools and techniques to organise and structure long documents			
3 Use word processing software tools and techniques to format and present documents effectively to meet requirements	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			

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<b>Unit title:</b>	<b>Project Management Software</b>
<b>Unit code:</b>	133
<b>Unit reference number:</b>	K/502/4618
<b>Level:</b>	Level 1
<b>Credit value:</b>	3
<b>Guided learning hours:</b>	20

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### Unit summary

This is the ability to use a software application that plans, organises and monitors completion of the component tasks within a project in logical sequence, given constraints of people and resource availability. This is not about managing a project although these standards may also be applicable to the project manager.

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

At this level project management tools and techniques will be described as 'basic' because:

- the software tools and functions will be predefined in templates or commonly used
- the range of entry, manipulation and outputting techniques will be straightforward or routine
- the inputting, manipulating and outputting of the information is in response to prompts and is directed by the project manager.

### 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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Create and define a project	1.1 Identify the main components of the project management software 1.2 Identify the information about the project that must be included 1.3 Create a new project file using templates where appropriate 1.4 Store and retrieve project management files effectively in line with local guidelines for storage and use of data where applicable			
2 Enter and edit information about project tasks and resources	2.1 Identify types of tasks, milestones, deadlines and constraints 2.2 Enter and edit information about project tasks 2.3 Identify time and resources required for the project 2.4 Apply a task calendar for scheduling tasks 2.5 Enter and edit information about resources for use in the project 2.6 Mark any dependencies between tasks 2.7 Assign resources to tasks			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Update information about project progress	3.1 Use editing and formatting techniques to update project elements 3.2 Update task status in line with progress 3.3 Update information about resources as required			
4 Select and use appropriate tools and techniques to display and report on project status	4.1 Use filtering and formatting techniques to display project information to meet needs 4.2 Select and generate project reports using pre-defined formats to meet needs			

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<b>Unit title:</b>	<b>Project Management Software</b>
<b>Unit code:</b>	233
<b>Unit reference number:</b>	M/502/4619
<b>Level:</b>	2
<b>Credit value:</b>	4
<b>Guided learning hours:</b>	30

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### Unit summary

This is the ability to use a software application that plans, organises and monitors completion of the component tasks within a project in logical sequence, given constraints of people and resource availability. This is not about managing a project although these standards may also be applicable to the project manager.

This unit is about the skills and knowledge required by an IT user to select and use a wide range of intermediate project management software tools and techniques to input and edit information that is at times non-routine or unfamiliar in order to support the planning and management of projects.

Project management tools and techniques will be described as 'intermediate' because:

- the software tools and functions used will be at times non-routine
- 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**

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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Create and define a project	1.1 Identify the critical information about the project that must be included 1.2 Create, store and retrieve project management files effectively in line with local guidelines for storage and use of data where applicable 1.3 Define the project file properties and project options			
2 Enter and edit information about project tasks and resources	2.1 Identify the critical tasks and milestones to be completed 2.2 Enter and edit information about project tasks 2.3 Identify any deadlines and constraints which apply to the project 2.4 Identify issues of resource availability and utilisation 2.5 Create and apply a task calendar for scheduling tasks 2.6 Enter and edit information about resources for use in the project 2.7 Adjust templates for project information 2.8 Set up and edit dependencies between tasks			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Update information about project progress	3.1 Describe the methods to update and report information about project progress 3.2 Use editing and formatting techniques to update project elements 3.3 Update task status in line with progress 3.4 Update information about resources as required 3.5 Compare actual progress with project baseline and reschedule uncompleted tasks 3.6 Identify any risks and issues that may have an impact on the project			
4 Select and use appropriate tools and techniques to display and report on project status	4.1 Select and create project reports to meet needs 4.2 Use filtering and formatting techniques to display project information to meet needs 4.3 Share project information with other applications			

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<b>Unit title:</b>	<b>Project Management Software</b>
<b>Unit code:</b>	333
<b>Unit reference number:</b>	H/502/4620
<b>Level:</b>	3
<b>Credit value:</b>	5
<b>Guided learning hours:</b>	40

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### Unit summary

This is the ability to use a software application that plans, organises and monitors completion of the component tasks within a project in logical sequence, given constraints of people and resource availability. This is not about managing a project although these standards may also be applicable to the project manager.

This unit is about the skills and knowledge required by an IT user to select and use a wide range of advanced project management software tools and techniques to input and modify complex information to support the planning and management of multiple projects.

Project management tools and techniques at this level will be described as 'advanced' because:

- the software tools and functions used will be complex and at times require the user to search for and apply a solution or alternative approach by exploring technical support, or self-teaching
- approaches to the inputting, manipulating and outputting of information will be complex, and will involve research, identification and application
- the user will take full responsibility for inputting, structuring, editing and managing the information within the software package.

### 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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Create and define a project	1.1 Explain the critical information about the project that must be included 1.2 Create, store and retrieve project management files in line with local guidelines where applicable 1.3 Define the project file properties and project options 1.4 Create master and sub-projects 1.5 Create links across projects and manage changes to linked tasks			
2 Enter and edit information about project tasks and resources	2.1 Identify the critical tasks and milestones to be completed 2.2 Explain how to set up any deadlines and constraints which apply to the project 2.3 Enter and edit information about project tasks 2.4 Explain how to resolve issues of resource availability and utilisation 2.5 Enter and edit information about resources to be used in the project 2.6 Create and apply a task calendar for scheduling tasks 2.7 Identify and resolve any issues of resource allocation 2.8 Define and set up dependencies between tasks			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Update information about project progress	3.1 Explain the methods available to track project progress and review against plans 3.2 Use editing and formatting techniques to update project elements 3.3 Update task status in line with progress 3.4 Update information about resources as required 3.5 Compare actual progress with project baseline and reschedule uncompleted tasks 3.6 Identify and assess the impact of risks and issues on the project 3.7 Manage information on project risks and issues			
4 Select and use appropriate tools and techniques to display and report on project status	4.1 Create and customise project reports to meet needs 4.2 Use filtering and formatting techniques to display project information to meet needs 4.3 Share project information with other applications			

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<b>Unit title:</b>	<b>Imaging Software</b>
<b>Unit code:</b>	134
<b>Unit reference number:</b>	J/502/4612
<b>Level:</b>	1
<b>Credit value:</b>	3
<b>Guided learning hours:</b>	20

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### Unit summary

This is the ability to use a software application designed to create, modify and layout images for display in print or on a screen.

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

Imaging software tools and techniques will be described as 'basic' because:

- the range of inputting, manipulation and outputting techniques will be straightforward or routine
- the software tools and functions involved will be predefined or commonly used
- the type and structure of the task will be predetermined or familiar.

### 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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Obtain, insert and combine information for images	1.1 Identify what images are needed 1.2 Obtain, input and prepare images to meet needs 1.3 Identify what generic copyright and other constraints apply to the use of images 1.4 Combine information of different types or from different sources for images 1.5 Identify the context in which the images will be used 1.6 Identify which file format to use for saving and exchanging images 1.7 Store and retrieve files effectively, in line with local guidelines and conventions where available			
2 Use imaging software tools to create, manipulate and edit images	2.1 Use suitable tools and techniques to create images 2.2 Use appropriate tools and techniques to manipulate and edit images 2.3 Check images meet needs, using IT tools and making corrections as necessary			

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<b>Unit title:</b>	<b>Imaging Software</b>
<b>Unit code:</b>	234
<b>Unit reference number:</b>	L/502/4613
<b>Level:</b>	2
<b>Credit value:</b>	4
<b>Guided learning hours:</b>	30

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### **Unit summary**

This is the ability to use a software application designed to create, modify and layout images for display in print or on a screen.

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

Imaging software tools and techniques at this level are described as 'intermediate' because:

- the range of entry, manipulation and outputting techniques will be at times non-routine or unfamiliar
- the software tools and functions involved will at times be non-routine or unfamiliar
- the user will take some responsibility for setting up or developing the type or structure.

### **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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Obtain, insert and combine information for images	1.1 Describe what images are needed 1.2 Obtain, input and prepare images to meet needs 1.3 Describe what copyright and other constraints apply to the use of images 1.4 Use appropriate techniques to organise and combine information of different types or from different sources 1.5 Describe the context in which the images will be used 1.6 Describe what file format to use for saving images to suit different presentation methods 1.7 Store and retrieve files effectively, in line with local guidelines and conventions where available			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Use imaging software tools to create, manipulate and edit images	2.1 Identify what technical factors affecting images need to be taken into account and how to do so 2.2 Select and use suitable techniques to create images 2.3 Use guide lines and dimensioning tools appropriately to enhance precision 2.4 Select and use appropriate tools and techniques to manipulate and edit images 2.5 Check images meet needs, using IT tools and making corrections as necessary 2.6 Identify and respond to quality problems with images to make sure that they meet needs			

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<b>Unit title:</b>	<b>Imaging Software</b>
<b>Unit code:</b>	334
<b>Unit reference number:</b>	R/502/4614
<b>Level:</b>	3
<b>Credit value:</b>	5
<b>Guided learning hours:</b>	40

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### Unit summary

This is the ability to use a software application designed to create, modify and layout images for display in print or on a screen.

This unit is about the skills and knowledge required by an IT user to select and use a wide range of advanced imaging software tools and techniques to create complex and non-routine images.

Imaging software 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 (eg improve efficiency or create an effect) exploring technical support, self-teaching and applying
- the inputting, manipulating and outputting techniques will be multi-step and 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

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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Obtain, insert and combine information for images	1.1 Explain what images are needed 1.2 Explain how the context affects the way images should be prepared 1.3 Provide guidance on what and how any copyright or other constraints may apply to the use of own and others' images 1.4 Obtain, insert and prepare images 1.5 Explain how file format affects image quality, format and size and how to choose appropriate formats for savings images 1.6 Use appropriate techniques to organise and combine information of different types or from different sources 1.7 Store and retrieve files effectively, in line with guidelines and conventions where available			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Use imaging software tools to create, manipulate and edit images	2.1 Explain what technical factors affecting images need to be taken into account and how to do so 2.2 Select and use suitable tools and techniques efficiently to create images 2.3 Use guide lines and dimensioning tools appropriately to enhance precision 2.4 Select and use appropriate tools and techniques to manipulate and edit images 2.5 Check images meet needs, using IT tools and making corrections as necessary 2.6 Identify and respond appropriately to quality problems to ensure that images are fit for purpose and meet needs			

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**Unit title:** Copper Cable Jointing and Closure Techniques

**Unit reference number:** L/601/0656

**Level:** 3

**Credit value:** 23

**Guided learning hours:** 120

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### **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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
<p>1 Track and locate underground services using a cable locator</p>	<p>1.1 Carry out functional checks on a cable locator</p> <p>1.2 Use a cable locator to:</p> <ul style="list-style-type: none"> <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> <p>1.3 Describe the range of underground services (eg electricity, water, gas) and how to identify them.</p>			
<p>2 Safely assemble and dismantle portable propane equipment</p>	<p>2.1 Explain safety considerations when working with and storing propane equipment</p> <p>2.2 Safely connect and disconnect portable equipment to a propane cylinder</p> <p>2.3 Check connected equipment for leaks</p> <p>2.4 Carry out an emergency repair to a gas hose</p> <p>2.5 Safely store and transport propane equipment</p> <p>2.6 Explain the procedures to follow in case of an incident.</p>			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Construct and maintain joint closures	3.1 Safely enter an existing joint closure 3.2 Explain the actions to take if the joint is found to be defective (eg 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 (eg 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 underground copper cables	5.1 Prepare copper cables for jointing. 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.			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
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			

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**Unit title:** Fibre Telecommunications Techniques

**Unit reference number:** H/601/0663

**Level:** 3

**Credit value:** 15

**Guided learning hours:** 80

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### **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.

## Learning outcomes and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Understand the properties, structures and components included in typical fibre telecommunications networks	1.1 Identify different types of optical fibre 1.2. Identify the physical components required to build a fibre infrastructure 1.3 Explain the different structures used in fibre networks, and when different structures should be used			
2 Understand safe working 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 documentation requirements when working on the optical fibre network	3.1 Explain the quality standards that apply for all installation and maintenance work on the optical fibre network 3.2 Explain what technical documentation needs to be completed before and after undertaking work on the fibre network			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
4 Prepare and install optical fibre components in exchanges and customer premises	4.1 Prepare optical fibre components for use 4.2 Provide fibres from a customer premises point of entry to the equipment fibre pigtails for both two-fibre and single-fibre working 4.3 Test components before commissioning the components			

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**Unit title:** **Managing Organisational Mail Servers**

**Unit code:** 337

**Unit reference number:** H/504/6293

**Level:** 3

**Credit value:** 10

**Guided learning hours:** 60

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### **Unit summary**

This unit will give learners the skills to manage organisational mail servers. Starting from installing and configuring mail servers, the unit then looks at management strategies. Finally learners will carry out maintenance on mail servers, including backups and restores and ongoing security configuration.

### **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 and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Be able to install mail servers	1.1 Explain the advantages of different mail server solutions 1.2 Plan the installation of mail servers in line with business requirements 1.3 Install mail servers in line with the business requirements plan			
2 Be able to configure mail servers	2.1 Configure mail servers to meet business needs 2.2 Configure security settings in line with organisational requirements 2.3 Configure server and test to ensure connectivity 2.4 Configure protocols and permissions in line with organisational requirements			
3 Be able to manage mail servers	3.1 Develop a strategy for managing the storage of data and public folders 3.2 Monitor and manage data storage in line with organisational strategy 3.3 Monitor and manage public folder usage in line with the strategy 3.4 Produce reports detailing data storage growth and public folder utilisation			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
4 Be able to maintain mail servers	4.1 Design a backup and maintenance schedule to meet business needs 4.2 Perform and troubleshoot backups and maintenance in line with the schedule 4.3 Perform a trial recovery to validate backup performance 4.4 Evaluate potential external security threats to the system 4.5 Configure the system to minimise external security threats			

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<b>Unit title:</b>	<b>Managing a Server Environment</b>
<b>Unit code:</b>	338
<b>Unit reference number:</b>	D/504/6289
<b>Level:</b>	3
<b>Credit value:</b>	10
<b>Guided learning hours:</b>	60

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### **Unit summary**

This unit enables learners to manage a network server environment by installing and monitoring network servers. The server management process requires an understanding of directory services and learners will apply their understanding by implementing directory services. Learners will also carry out the monitoring of servers and utilise techniques for disaster recovery.

### **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 and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Be able to install organisational servers	1.1 Discuss the different roles of organisational servers 1.2 Explain the different ways of carrying out server installations 1.3 Plan server installation in line with the directory services requirements of the organisation and the hardware requirements of the installed system 1.4 Perform server installation in line with the organisational plan 1.5 Install service packs and hot fixes as recommended by the software platform 1.6 Install administrative tools to enable the management of directory services components and objects 1.7 Install appropriate device drivers in line with hardware manufacturer recommendations 1.8 Configure hardware devices in line with organisational requirements			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Understand organisational directory services	2.1 Explain the components and objects supported by the organisational directory services 2.2 Describe the tools available to administer directory services 2.3 Plan a directory services structure to support an organisation 2.4 Plan a directory services security policy in line with organisational requirements			
3 Be able to implement a directory services structure	3.1 Create a directory services structure in line with the organisational structure plan 3.2 Create directory services objects in line with the organisational structure plan 3.3 Implement directory services security in line with the security policy			
4 Be able to manage directory service objects	4.1 Use local and remote tools to manage users, computers and groups in line with organisational requirements 4.2 Create and manage shared resources, configuring permissions in line with user requirements			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
5 Be able to monitor organisational servers	5.1 Design an organisational disk, file and print server monitoring plan in line with company requirements 5.2 Carry out monitoring in line with the plan, producing appropriate reports and highlighting any issues 5.3 Monitor server environment objects and configure objects to optimise application performance			
6 Be able to manage disaster recovery	6.1 Design a backup schedule to meet business disaster recovery needs 6.2 Carry out and troubleshoot backup in line with the schedule 6.3 Perform a trial restore to validate disaster recovery performance			

Learner name: \_\_\_\_\_

Date: \_\_\_\_\_

Learner signature: \_\_\_\_\_

Date: \_\_\_\_\_

Assessor signature: \_\_\_\_\_

Date: \_\_\_\_\_

Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

<b>Unit title:</b>	<b>Implementing Systems Management Software</b>
<b>Unit code:</b>	339
<b>Unit reference number:</b>	T/504/6282
<b>Level:</b>	3
<b>Credit value:</b>	10
<b>Guided learning hours:</b>	60

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### **Unit summary**

This unit enables learners to install, implement and manage systems management software. Learners will initially analyse the systems management software requirements of an organisation and develop a deployment plan. They will then implement the plan and use the software to gather asset management information.

### **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 and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Be able to plan systems management software requirements for business	1.1 Evaluate the systems management software requirements for a business 1.2 Identify business information required from systems management software 1.3 Assess the current management and security software systems of the business 1.4 Plan the integration of systems management software in line with business requirements 1.5 Plan a systems management software installation in line with business requirements 1.6 Produce a software client agent deployment plan for the business 1.7 Produce a hardware client agent deployment plan for the business			
2 Be able to configure a systems management server system	2.1 Install systems management server software in line with the integration plan 2.2 Configure systems management server software to meet business needs 2.3 Deploy and configure client agent software and hardware in line with deployment plans			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Be able to manage a systems management server environment	3.1 Collect asset management information in line with the asset management plan 3.2 Use systems management server to produce query data and report data in line with identified business information requirements 3.3 Use systems management server to deploy software in line with company requirements			
4 Be able to maintain a systems management server environment	4.1 Monitor the effectiveness of the software distribution process 4.2 Design a maintenance schedule to meet business needs 4.3 Perform systems maintenance tasks in line with the maintenance schedule 4.4 Design a backup schedule to meet business needs 4.5 Perform backups in line with the backup schedule 4.6 Perform a trial recovery to validate backup performance			

Learner name: \_\_\_\_\_

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Assessor signature: \_\_\_\_\_

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Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

<b>Unit title:</b>	<b>Customer Care for IT and Telecoms Professionals</b>
<b>Unit code:</b>	440
<b>Unit reference number:</b>	H/504/5502
<b>Level:</b>	4
<b>Credit value:</b>	12
<b>Guided learning hours:</b>	100

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### **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.

## Learning outcomes and assessment criteria

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

Learning outcomes	Assessment 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: \_\_\_\_\_

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Assessor signature: \_\_\_\_\_

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Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*



<b>Unit title:</b>	<b>Testing IT and Telecoms Systems</b>
<b>Unit code:</b>	441
<b>Unit reference number:</b>	K/504/5503
<b>Level:</b>	4
<b>Credit value:</b>	15
<b>Guided learning hours:</b>	90

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### **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 and assessment criteria

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Understand the principles of IT and Telecoms testing	1.1 Explain the purposes of testing 1.2 Explain the factors which determine the applicability of different classes of test 1.3 Explain the importance of preparation and conclusion activities associated with testing and the circumstances in which they may be required 1.4 Explain organisational requirements and procedures for testing			
2 Plan for the testing of an IT or Telecoms system	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 2.5 Define all required test preparation and conclusion activities			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
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			

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Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

**Unit title:** IT and Telecoms System Management

**Unit code:** 442

**Unit reference number:** M/504/5504

**Level:** 4

**Credit value:** 15

**Guided learning hours:** 90

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### **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 and assessment criteria

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	Assessment 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: \_\_\_\_\_

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Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*



**Unit title:** IT and Telecoms System  
Operation

**Unit code:** 443

**Unit reference number:** R/504/5513

**Level:** 4

**Credit value:** 15

**Guided learning hours:** 90

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### **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 and assessment criteria

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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
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			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
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			

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Internal verifier signature: \_\_\_\_\_

Date: \_\_\_\_\_

*(if sampled)*

<b>Unit title:</b>	<b>Planning, Implementation and Maintenance of IPTV Delivery Systems</b>
<b>Unit code:</b>	444
<b>Unit reference number:</b>	T/506/4054
<b>Level:</b>	4
<b>Credit value:</b>	17
<b>Guided learning hours:</b>	68

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### **Unit summary**

This unit provides the learner with the skills and competencies required to plan, implement and maintain IPTV service delivery systems within a digital media focused environment.

### **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

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
1 Be able to plan IPTV Delivery Services	1.1 Evaluate the technology implications of digital television and Internet service offerings 1.2 Analyse the extent to which they are converging to create new business models 1.3 Assess the contribution of advancements in IPTV delivery solutions (hardware and software) to levels of service 1.4 Interpret customer requirements to produce technical specifications for IPTV delivery systems 1.5 Plan IPTV deployments in line with technical specification, utilising industry best practice principles 1.6 Evaluate organisational methods, tools and techniques used to conduct IPTV delivery solution planning			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
2 Be able to implement, IPTV Delivery Services	2.1 Install and configure IPTV components (including hardware and software) from requirement specifications and plans 2.2 Apply test methods, tools and techniques following organisational procedures to perform testing of individual IPTV components as well as end to end IPTV service delivery 2.3 Record the results of tests using standard industry/organisational documentation 2.4 Explain how you ensure that all components of IPTV delivery systems have been correctly implemented following the completion of testing 2.5 Provide technical support to end customers in line with organisation procedures			

Learning outcomes	Assessment criteria	Evidence type	Portfolio reference	Date
3 Be able to maintain IPTV Service Delivery Systems	3.1 Maintain IPTV systems in line with levels of service agreements 3.2 Use and maintain IPTV monitoring equipment in line with organisational documents 3.3 Evaluate monitoring results, suggesting possible improvements to the system 3.4 Perform system upgrades to IPTV software and hardware in line with organisation documents 3.5 Apply diagnostic tools and techniques, in line with organisational documents to identify the causes of service affecting issues 3.6 Evaluate organisational approaches to troubleshooting issues 3.7 Repair faults in platform hardware, customer equipment and delivery networks in line with organisational requirements 3.8 Log and respond to reported issues, providing details of their resolution or ongoing status as required 3.9 Maintain accurate records of maintenance activities following organisational procedures 3.10 Communicate the results and implications of maintenance issues to relevant persons using appropriate media			

Learner name: \_\_\_\_\_

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Internal verifier signature: \_\_\_\_\_

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*(if sampled)*

## Further information and useful publications

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To get in touch with us visit our 'Contact us' pages:

- Edexcel, BTEC and Pearson Work Based Learning contact details: [qualifications.pearson.com/en/support/contact-us.html](http://qualifications.pearson.com/en/support/contact-us.html)
- books, software and online resources for UK schools and colleges: [www.pearsonschoolsandfecolleges.co.uk](http://www.pearsonschoolsandfecolleges.co.uk)

Key publications

- *Adjustments for candidates with disabilities and learning difficulties, Access and Arrangements and Reasonable Adjustments, General and Vocational qualifications* (Joint Council for Qualifications (JCQ))
- *Supplementary guidance for reasonable adjustments and special consideration in vocational internally assessed units* (Pearson)
- *General and Vocational qualifications, Suspected Malpractice in Examination and Assessments: Policies and Procedures* (JCQ)
- *Equality Policy* (Pearson)
- *Recognition of Prior Learning Policy and Process* (Pearson)
- *UK Information Manual* (Pearson)
- *Pearson Edexcel NVQs, SVQs and competence-based qualifications – Delivery Requirements and Quality Assurance Guidance* (Pearson)

All of these publications are available on our website:  
[qualifications.pearson.com](http://qualifications.pearson.com)

Further information and publications on the delivery and quality assurance of NVQ/Competence-based qualifications are available at our website on the Delivering BTEC pages. Our publications catalogue lists all the material available to support our qualifications. To access the catalogue and order publications, please go to the resources page of our website.

# Professional development and training

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## Professional development and training

Pearson supports customers with training related to our qualifications. This support is available through a choice of training options offered on our website.

The support we offer focuses on a range of issues, such as:

- planning for the delivery of a new programme
- planning for assessment and grading
- developing effective assignments
- building your team and teamwork skills
- developing learner-centred learning and teaching approaches
- building in effective and efficient quality assurance systems.

The national programme of training we offer is on our website. You can request centre-based training through the website or you can contact one of our advisers in the Training from Pearson UK team via Customer Services to discuss your training needs.

## Training and support for the lifetime of the qualifications

**Training and networks:** our training programme ranges from free introductory events through sector-specific opportunities to detailed training on all aspects of delivery, assignments and assessment. We also host some regional network events to allow you to share your experiences, ideas and best practice with colleagues in your region.

**Regional support:** our team of Regional Quality Managers, based around the country, are responsible for providing quality assurance support and guidance to anyone managing and delivering NVQs/Competence-based qualifications. The Regional Quality Managers can support you at all stages of the standard verification process as well as in finding resolutions of actions and recommendations as required.

To get in touch with our dedicated support teams please visit our website at: [qualifications.pearson.com/en/support/contact-us.html](https://qualifications.pearson.com/en/support/contact-us.html)

**Online support:** find the answers to your questions in *Knowledge Base*, a searchable database of FAQs and useful videos that we have put together with the help of our subject advisors to support you in your role. Whether you are a teacher, administrator, Assessment Associate (AA) or training provider, you will find answers to your questions. If you are unable to find the information you need please send us your query and our qualification or administrative experts will get back to you.

## Contact us

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We have a dedicated Account Support team, across the UK, to give you more personalised support and advice. To contact your Account Specialist:

**Email:** wblcustomerservices@pearson.com

**Telephone:** 0844 576 0045

If you are new to Pearson and would like to become an approved centre, please contact us by:

**Email:** wbl@pearson.com

**Telephone:** 0844 576 0045



# Annexe A: Quality assurance

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## Key principles of quality assurance

- A centre delivering Pearson qualifications must be a Pearson recognised centre and must have approval for qualifications that it is offering.
- The centre agrees as part of gaining recognition to abide by specific terms and conditions around the effective delivery and quality assurance of assessment; the centre must abide by these conditions throughout the period of delivery.
- Pearson makes available to approved centres a range of materials and opportunities to exemplify the processes required for effective assessment and provide examples of effective standards. Approved centres must use the guidance on assessment to ensure that staff who are delivering Pearson qualifications are applying consistent standards.
- An approved centre must follow agreed protocols for: standardisation of assessors; planning, monitoring and recording of assessment processes; internal verification and recording of internal verification processes; and for dealing with special circumstances, appeals and malpractice.

## Quality assurance processes

The approach to quality assured assessment is made through a partnership between a recognised centre and Pearson. Pearson is committed to ensuring that it follows best practice and employs appropriate technology to support quality assurance process where practicable. Therefore, the specific arrangements for working with centres will vary. Pearson seeks to ensure that the quality assurance processes that it uses do not place undue bureaucratic processes on centres and works to support centres in providing robust quality assurance processes.

The learning outcomes and assessment criteria in each unit within this specification set out the standard to be achieved by each learner in order to gain each qualification. Pearson operates a quality assurance process, which is designed to ensure that these standards are maintained by all assessors and verifiers.

For the purposes of quality assurance all individual qualifications and units are considered as a whole. Centres offering these qualifications must be committed to ensuring the quality of the units and qualifications they offer, through effective standardisation of assessors and internal verification of assessor decisions. Centre quality assurance and assessment processes are monitored by Pearson.

The Pearson quality assurance processes will involve:

- gaining centre recognition and qualification approval if a centre is not currently approved to offer Pearson qualifications
- annual visits to centres by Pearson for quality review and development of overarching processes and quality standards. Quality review and development visits will be conducted by a Pearson quality development reviewer
- annual visits by occupationally competent and qualified Pearson Standards Verifiers for sampling of internal verification and assessor decisions for the occupational sector
- the provision of support, advice and guidance towards the achievement of National Occupational Standards.

Centres are required to declare their commitment to ensuring quality and appropriate opportunities for learners that lead to valid and accurate assessment outcomes. In addition, centres will commit to undertaking defined training and online standardisation activities.

## Annexe B: Centre certification and registration

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Pearson Standards Verifiers will provide support, advice and guidance to centres to achieve Direct Claims Status (DCS). Pearson will maintain the integrity of Pearson NVQs and competence based qualifications through ensuring that the awarding of these qualifications is secure. Where there are quality issues identified in the delivery of programmes, Pearson will exercise the right to:

- direct centres to take actions
- limit or suspend certification
- suspend registration.

The approach of Pearson in such circumstances is to work with the centre to overcome the problems identified. If additional training is required, Pearson will aim to secure the appropriate expertise to provide this.

### **What are the access arrangements and special considerations for the qualifications in this specification?**

Centres are required to recruit learners to Pearson qualifications with integrity.

Appropriate steps should be taken to assess each applicant's potential and a professional judgement made about their ability to successfully complete the programme of study and achieve the qualification. This assessment will need to take account of the support available to the learner within the centre during their programme of study and any specific support that might be necessary to allow the learner to access the assessment for the qualification. Centres should consult Pearson's policy on learners with particular requirements.

Pearson's policy on access arrangements and special considerations for Pearson qualifications aims to enhance access to the qualifications for learners with disabilities and other difficulties (as defined by the 2010 Equality Act) without compromising the assessment of skills, knowledge, understanding or competence. Please refer to *Access Arrangements and Special Considerations for BTEC and Pearson NVQ Qualifications* for further details. [qualifications.pearson.com](http://qualifications.pearson.com).



# Annexe C: Assessment strategy

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In the Pearson BTEC Professional Competence Diplomas (QCF), 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

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

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

<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.

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<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)

Customer Care in ICT

Health and Safety for ICT

Managing Software Development

Personal Effectiveness

Quality Management for ICT

Remote Support

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



## Annexe D: Relationship between new and legacy units

### New Competence Units

The following new units have been developed to replace the existing QCF/NVQ units within the Professional Competence qualifications:

Reference	New Competence Unit	Level	Legacy Competence Unit
A/601/3164	Computer Games Development	2	New
F/601/3165	Computer Games Development	3	New
L/601/3167	Creating A Procedural Computer Program	2	Software Development – Component Creation
R/601/3171	Creating A Procedural Computer Program	3	Software Development – Component Creation
T/601/3177	Creating An Event-driven Computer Program	2	Software Development – Component Creation
F/601/3179	Creating An Event-driven Computer Program	3	Software Development – Component Creation
A/601/3181	Creating An Object-oriented Computer Program	2	Software Development – Component Creation
L/601/3184	Creating An Object-oriented Computer Program	3	Software Development – Component Creation
A/601/3200	Data Modelling	2	Data Analysis & Data Structure Design
L/601/3203	Data Modelling	3	Data Analysis & Data Structure Design
R/601/3297	Data Structures And Algorithms	4	Data Analysis & Data Structure Design
L/601/3315	Designing And Developing A Website	4	Software Design
J/601/3300	Designing And Developing Event-Driven Computer Programs	4	Software Design
T/601/3308	Designing And Developing Object-Oriented Computer Programs	4	Software Design

<b>Reference</b>	<b>New Competence Unit</b>	<b>Level</b>	<b>Legacy Competence Unit</b>
T/601/3311	Designing And Developing Procedural Computer Programs	4	Software Design
Y/601/3317	Develop Own Effectiveness And Professionalism	2	Develop Personal And Organisational Effectiveness
H/601/3501	Develop Own Effectiveness And Professionalism	3	Develop Personal And Organisational Effectiveness
K/601/3502	Develop Own Effectiveness And Professionalism	4	Develop Personal And Organisational Effectiveness
J/601/3247	Introduction To IT Systems Development	2	Investigating And Defining Requirements
R/601/3249	Investigating And Defining Customer Requirements For ICT Systems	3	Investigating And Defining Requirements
R/602/1772	Investigating And Defining Requirements For ICT Systems	4	Investigating And Defining Requirements
F/601/3506	Technical Advice And Guidance	2	Technical Advice And Guidance
J/601/3507	Technical Advice And Guidance	3	Technical Advice And Guidance
T/601/3292	Technical Fault Diagnosis	2	Technical Fault Diagnosis
A/601/3293	Technical Fault Diagnosis	3	Technical Fault Diagnosis
Y/500/7345	Technical Advice And Guidance	4	Technical Advice And Guidance

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