Pearson
BTEC Level 2 Certificate in Introduction to Healthcare Science

Specification

Combined (Competence and Knowledge) qualification

First registration March 2015

Issue 2

Edexcel, BTEC and LCCI qualifications

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About Pearson

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This specification is Issue 2. 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

This qualification was previously known as:

Pearson BTEC Level 2 Certificate in Introduction to Healthcare Science (QCF)

The QN remains the same.

References to third party material made in this specification are made in good faith. Pearson does not endorse, approve or accept responsibility for the content of materials, which may be subject to change, or any opinions expressed therein. (Material may include textbooks, journals, magazines and other publications and websites.)

All information in this specification is correct at time of publication.

Summary of Pearson BTEC Level 2 Certificate in Introduction to Healthcare Science specification issue 2 changes

Summary of changes made between previous issue and this current issue	Section number
All references to QCF have been removed throughout the specification	
Definition of TQT added	Section 1
Definition of sizes of qualifications aligned to TQT	Section 1
Credit value range removed and replaced with lowest credit value for the shortest route through the qualification	Section 2
TQT value added	Section 2
GLH range removed and replaced with lowest GLH value for the shortest route through the qualification	Section 2
Reference to credit transfer within the QCF removed	Section 8
QCF references removed from unit titles and unit levels in all units	Section 11
Guided learning definition updated	Section 11

Earlier issue(s) show(s) 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.

Contents

Purpose of this specification

This specification sets out:

- the objectives of the qualification

- any other qualification that a learner must have completed before taking the qualification

- any prior knowledge, skills or understanding which the learner is required to have before taking the qualification

- the combination of units that a learner must have completed before the qualification will be awarded and any pathways

- any other requirements that a learner must have satisfied before they will be assessed or before the qualification will be awarded

- the knowledge, skills and understanding that will be assessed as part of the qualification

- the method of any assessment and any associated requirements relating to it

- the criteria against which a learner's level of attainment will be measured (such as assessment criteria)

- assessment requirements and/or evidence requirements required as specified by the relevant Sector Skills Council/Standards Setting Body

- assessment requirements/strategy as published by the relevant Sector Skills Council/Standards Setting Body

- the Apprenticeship Framework in which the qualification is included, where appropriate.

1   Introducing BTEC Combined (Competence and Knowledge) qualifications

What are Combined (Competence and Knowledge) qualifications?

A Combined (Competence and Knowledge) qualification is a work-based qualification that combines competence and technical knowledge to give learners the practical competencies, technical skills and sector-related knowledge they need to be able to carry out a job effectively.

Combined (Competence and Knowledge) qualifications 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. Combined (Competence and Knowledge) qualifications can also be delivered as stand-alone for those who wish to take a work-based qualification.

Combined (Competence and Knowledge) qualifications are outcome based with no fixed learning programme – allowing flexible delivery that meets the individual learner's needs. They are suitable for those in employment and for those studying at college who 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 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.

Combined (Competence and Knowledge) 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).

2 Qualification summary and key information

Qualification title	Pearson BTEC Level 2 Certificate in Introduction to Healthcare Science
Qualification Number (QN)	601/5721/5
Accreditation start date	March 1st 2015
Approved age ranges	16-18
	19+
	Please note that sector-specific requirements or regulations may prevent learners of a particular age from embarking on this qualification. Please refer to the assessment requirements/strategy.
Credit value	14
Assessment	Centre-devised assessment (internal assessment)
Total Qualification Time (TQT)	140
Guided learning hours	103
Grading information	The qualification and units are graded pass/fail.
Entry requirements	No prior knowledge, understanding, skills or qualifications are required before learners register for this qualification. However, centres must follow the Pearson Access and Recruitment policy (see *Section 7, Access and Recruitment*).
Funding	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.
	Further information and guidance is available on the website: www.gov.uk

Centres will need to use the Qualification Number (QN) when they seek public funding for their learners. As well as a QN, each unit within a qualification has a unit reference number (URN).

The qualification title, unit titles and QN will appear on each learner's final certificate. Centres should tell learners this when recruiting them and registering them with Pearson. There is more information about certification in our UK Information Manual, available on our website: qualifications.pearson.com/Qualification rationale

Qualification objectives

The Pearson BTEC Level 2 Certificate in Introduction to Healthcare Science is for learners who work as Healthcare Science Assistants and want to have their knowledge and skills formally recognised.

The qualification gives learners the opportunity to:

- develop knowledge related to the healthcare science environment and the roles and responsibilities of those who work in this environment
- develop skills related to the healthcare science environment
- develop effective study skills, including the use of reflective practice
- achieve a nationally-recognised Level 2 qualification
- develop personal growth and engagement in learning.

Relationship with previous qualifications

This is a new qualification and does not replace any previous qualifications.

Progression opportunities

Learners who have achieved the Pearson BTEC Level 2 Certificate in Introduction to Healthcare Science can progress in the workplace to become Healthcare Science Assistants, the next level on the NHS Career Framework. Learners will also be able to progress to qualifications at Level 3 or Level 4, for example the Pearson BTEC Level 3 Certificate in Working in the Health Sector or the Pearson BTEC Level 4 Certificate in Healthcare Science.

Industry support and recognition

This qualification is supported by Cogent, the Sector Skills Council for the science industries.

Relationship with National Occupational Standards

This qualification relates to the National Occupational Standards in Laboratory Science and the National Occupational Standards in Healthcare.

4 Qualification structure

Pearson BTEC Level 2 Certificate in Introduction to Healthcare Science

The learner will need to meet the requirements outlined in the table below before Pearson can award the qualification

Number of credits that must be achieved	14

Unit	Unit reference number	Mandatory units	Level	Credit	Guided learning hours
1		Healthcare Science Services	2	3	20
2		Employee Rights, Responsibilities and Personal Development in Healthcare Science	2	3	20
3		Working in Partnership in Healthcare Science	2	3	26
4		Investigating, Treating and Managing Human Disease and Disorder	2	2	17
5		Working Safely in the Healthcare Science Environment	2	3	20

5   Programme delivery

Centres are free to offer these qualifications using any mode of delivery (for example full-time, part-time, evening only, distance learning) that meets learners' needs. Learners must be in employment or working with a training provider on a programme so that they can develop and demonstrate the occupational competence required

Whichever mode of delivery is used, centres must make sure that learners have access to specified resources and to the sector specialists delivering and assessing the units. Centres must adhere to the Pearson policies that apply to the different modes of delivery. Our policy *Collaborative arrangements for the delivery of vocational qualifications* can be found on our website.

There are various approaches to delivering a successful competence-based qualification. The section below outlines elements of good practice that centres can adopt in relation to learner recruitment, preparation and support, training and assessment delivery, and employer engagement.

Elements of good practice

Learner recruitment, preparation and support

Good practice in relation to learner recruitment, preparation and support include:

- providing initial advice and guidance, including work tasters, to potential learners to give them an insight into the relevant industry and the learning programme.

- using a range of appropriate and rigorous selection methods to ensure that learners are matched to the programme best suited to their needs.

- carrying out a thorough induction for learners to ensure that they completely understand the programme and what is expected of them. The induction should include, for example, the requirements of the programme, an initial assessment of current competency levels, assessment of individual learning styles, identification of training needs, an individual learning plan, details of training delivery and the assessment process. It is good practice to involve the employer in the induction process. This helps employers to understand what will be taking place during the programme and enables them to start building a relationship with the centre to support the effective delivery of the programme.

- keeping in regular contact with the learner to keep them engaged and motivated, and ensuring that there are open lines of communication between the learner, the assessor, the employer and teaching staff.

Training and assessment delivery

Good practice in relation to training and assessment delivery includes:

- offering flexible delivery and assessment to meet the needs of the employer and learner, through the use of a range of approaches, for example virtual learning environments (VLEs), online lectures, video, printable online resources, virtual visits, webcams for distance training, e-portfolios

- balancing on-the-job and off-the-job training to meet the knowledge and competence requirements of the programme:

  - off-the-job: the nature of Combined (Competence and Knowledge) qualifications means that the development of technical and sector-related knowledge is integral to learners achieving the qualifications. As a result, learners need to have sufficient time away from the work environment to focus on developing their technical and industry knowledge, and transferable and practical skills related to their job role. Tutors need to use a range of teaching and learning methods to deliver this training effectively. Examples of methods are: demonstration, observation and imitation, practising ('trial and error'), feedback on performance from experts and peers, reflective practice, real-world problem solving, enquiry-based learning, simulation and role play, peer learning, virtual environments, questioning and discussions

  - on-the-job: planning opportunities with the employer for the development and practising of skills on the job. The on-the-job element of the programme not only offers opportunities for assessment but also plays an important role in developing the learner's routine expertise, resourcefulness, craftspersonship and business-like attitude. It is important that there is intentional structuring of practice and guidance to supplement the learning and development provided through engagement in everyday work activities. Teaching and learning methods, such as coaching, mentoring, shadowing, reflective practice, collaboration and consultation, could be used in this structured on-the-job learning

- integrating the delivery and assessment of Personal, Learning and Thinking Skills (PLTS) and Employment Rights and Responsibilities (ERR) if the programme is being delivered as a part of an Apprenticeship. It is important that learners understand the relevance of these skills in the workplace and are aware of when and how they will be developing them

- developing an holistic approach to assessment by matching evidence to different assessment criteria, learning outcomes and units as appropriate, thereby reducing the assessment burden on learners and assessors. It is good practice to draw up an assessment plan that aligns the units with the learning process and the acquisition of knowledge and skills, and that indicates how and when the units will be assessed

- discussing and agreeing with the learner and employer suitable times, dates and work areas where assessment will take place. Learners and employers should be given regular and relevant feedback on performance and progress.

Employer engagement

Good practice in relation to employer engagement includes:

- communicating with employers at the start of the programme to understand their business context and requirements so that the programme can be tailored to meet their needs

- working with the employer to ensure that learners are allocated a mentor in the workplace to assist them in the day-to-day working environment and to act as a contact for the assessor/tutor

- helping the employer to better understand their role in the delivery of the programme. It is important that employers understand that sufficient and relevant work must be given to learners in order to provide a culture of learning and to ensure that they are given every opportunity to participate in aspects of continuous professional development (CPD).

6 Centre resource requirements

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

- Centres must have appropriate physical resources (for example IT, learning materials, teaching rooms) to support delivery and assessment.
- Staff involved in the assessment process must have relevant expertise and occupational experience.
- There must be systems in place that ensure continuing professional development (CPD) for staff delivering the qualification.
- Centres must have in place appropriate health and safety policies relating to the use of equipment by learners.
- Centres must deliver the qualifications in accordance with current equality legislation. For further details on Pearson's commitment to the Equality Act 2010, please see *Section 7 Access and recruitment.* For full details of the Equality Act 2010, please go to www.legislation.gov.uk

Essential resources

Staff delivering programmes and conducting the assessments should be familiar with current practice and standards in the Healthcare Sciences.

Learners will need access to a variety of information such as company annual reports, journals, magazines, company websites and newspapers. Access to a range of information resources to complete investigative assignments and case studies will be essential, including relevant internet pages.

7 Access and recruitment

Our policy on access to our qualifications is that:

- they should be available to everyone who is capable of reaching the required standards
- they should be free from barriers that restrict access and progression
- there should be equal opportunities for all wishing to access the qualifications.

Centres must ensure that their learner recruitment process is conducted with integrity. This includes ensuring that applicants have appropriate information and advice about the qualification to ensure that it will meet their needs.

Centres should review applicants' prior qualifications and/or experience, considering whether this profile shows that they have the potential to achieve the qualification.

Learners may be aged between 14 and 16 and therefore potentially vulnerable. Where learners are required to spend time in and are assessed in work settings, it is the centre's responsibility to ensure that the work environment is safe.

Prior knowledge, skills and understanding

No prior knowledge, understanding, skills or qualifications are required before learners register for this qualification.

Access to qualifications for learners with disabilities or specific needs

Equality and fairness are central to our work. Pearson's Equality Policy requires all learners to have equal opportunity to access our qualifications and assessments and that our qualifications are awarded in a way that is fair to every learner.

We are committed to making sure that:

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

For learners with disabilities and specific needs, the assessment of their potential to achieve the qualification must identify, where appropriate, the support that will be made available to them during delivery and assessment of the qualification. Please see the information regarding reasonable adjustments and special consideration in *Section 8, Assessment*.

8 Assessment

The table below gives a summary of the assessment methods used in the qualification.

Units	Assessment method
All units	Centre-devised assessment

Centre-devised assessment (internal assessment)

Each unit has specified learning outcomes and assessment criteria. To pass an internally assessed unit, learners must meet all of the unit's learning outcomes. Centres may find it helpful if learners index and reference their evidence to the relevant learning outcomes and assessment criteria.

Centres need to write assessment briefs for learners to show what evidence is required. Assessment briefs should indicate clearly, which assessment criteria are being targeted.

Assessment briefs and evidence produced by learners must meet any additional requirements given in the *Information for tutors* section of each unit.

Unless otherwise indicated in *Information for tutors*, the centre can decide the form of assessment evidence (for example performance observation, presentations, projects, tests, extended writing) as long as the methods chosen allow learners to produce valid, sufficient and reliable evidence of meeting the assessment criteria.

Centres are encouraged to give learners realistic scenarios and to maximise the use of practical activities in delivery and assessment.

To avoid over-assessment, centres are encouraged to link delivery and assessment across units.

There is more guidance about internal assessment on our website. For details, please see *Section 12 Further information and useful publications*.

Language of assessment

Assessment of the internally assessed units may be in English, Welsh or Irish. If assessment is to be carried out in either Welsh or Irish then centres must inform Pearson at the point of learner registration.

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

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

Further information on access arrangements can be found in the Joint Council for Qualifications (JCQ) document *Access Arrangements, Reasonable Adjustments and Special Consideration for General and Vocational qualifications*. Both documents are on our website.

Internal assessment

All units in this qualification are assessed through an internally and externally quality assured Portfolio of Evidence made up of evidence gathered during the course of the learner's work.

Each unit has specified learning outcomes and assessment criteria. To pass each unit the learner must:

- achieve **all** the specified learning outcomes

- satisfy **all** the assessment criteria by providing sufficient and valid evidence for each criterion

- prove that the evidence is their own.

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

It is important that the evidence provided to meet the assessment criteria for the unit and learning outcomes is:

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

Learners can provide evidence of occupational competence 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 programme. The evidence provided must meet the requirements of the Sector Skills Council's assessment requirements/strategy.

- **Recognition of Prior Learning (RPL)** – where a learner can demonstrate that they can meet a unit's assessment criteria through knowledge, understanding or skills they already possess without undertaking a course of development. They must submit sufficient, reliable, authentic and valid evidence for assessment. Evidence submitted that is based on RPL should give the centre confidence that the same level of skill, understanding and 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 our policy document *Recognition of Prior Learning Policy and Process*, available on our website.

- a combination of these.

Assessment requirements/strategy

The assessment strategy for the internally assessed units is included in *Annexe A*. It sets out the overarching assessment principles and the framework for assessing the units to ensure that the qualification remains valid and reliable. It has been developed by Cogent in partnership with employers, training providers, awarding organisations and the regulatory authorities.

Types of evidence

To achieve a unit, the learner must gather evidence that shows that they have met the required standard specified in the assessment criteria, Pearson's quality assurance arrangements (please see *Section 10, Quality assurance of centres*) and the requirements of the assessment requirements/strategy given in *Annexe A*.

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

● direct observation of the learner's performance by their assessor (O)

● outcomes from oral or written questioning (Q&A)

● products of the learner's work (P)

● personal statements and/or reflective accounts (RA)

● outcomes from simulation (S)

● professional discussion (PD)

● authentic statements/witness testimony (WT)

● expert witness testimony (EWT)

● evidence of Recognition of Prior Learning (RPL).

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

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

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

Further guidance on the requirements for centre quality assurance and internal verification processes is available on our website. Please see *Section 12, Further information and useful publications* for details.

Assessment of knowledge

With Combined (Competence and Knowledge) qualifications, the assessment of technical and sector-related knowledge is integral to achieving the qualifications. Learners must provide evidence of their achievement of the knowledge-based learning outcomes and associated assessment criteria – the achievement of these cannot be inferred from performance. Centres must ensure that the assessment methods used are appropriate for the specific learning outcomes and assessment criteria and are in line with the assessment strategy in *Annexe A.*

Assessment tasks and activities must enable the learners to produce valid, sufficient, authentic and appropriate evidence that relates directly to the specified knowledge-based learning outcomes and assessment criteria within the context of the *Unit amplification*. Centres need to look closely at the verb used for each assessment criterion when devising the assessments to ensure that learners can provide evidence with sufficient breadth and depth to meet the requirements.

To avoid over-assessment, centres are encouraged to link delivery and assessment across the units.

The *Unit assessment guidance* provided in the individual units will be useful in supporting centres in the assessment process.

Appeals

Centres must have a policy for dealing with appeals from learners. Appeals may relate to incorrect assessment decisions or unfairly conducted assessment. The first step in such a policy is a consideration of the evidence by a Lead Internal Verifier or other member of the programme team. The assessment plan should allow time for potential appeals after learners have been given assessment decisions.

Centres must document all learners' appeals and their resolutions. Further information on the appeals process can be found in the document *Enquiries and Appeals about Pearson Vocational Qualifications,* available on our website.

Dealing with malpractice

Centres must have a policy for dealing with malpractice by learners. This policy must follow the *Pearson policy on malpractice: Centre Guidance,* available on our website. Centres must report malpractice to Pearson, particularly if any units have been subject to quality assurance or certification.

Reasonable adjustments to assessment

Centres are able to make adjustments to assessments to take account of the needs of individual learners in line with the guidance given in the document *Pearson Supplementary Guidance for Reasonable Adjustment and Special Consideration in Vocational Internally Assessed Units*. In most instances, adjustments can be achieved by following the guidance; for example allowing the use of assistive technology or adjusting the format of the evidence. We can advise you if you are uncertain as to whether an adjustment is fair and reasonable. Any reasonable adjustment must reflect the normal learning or working practice of a learner in a centre or working within the occupational area.

Further information on access arrangements can be found in the Joint Council for Qualifications (JCQ) document *Access Arrangements, Reasonable Adjustments and Special Consideration for General and Vocational qualifications*.

Both documents are on our website.

Special consideration

Centres must operate special consideration in line with the guidance given in the document *Pearson Supplementary Guidance for Reasonable Adjustment and Special Consideration in Vocational Internally Assessed Units*. Special consideration may not be applicable in instances where:

● assessment requires the demonstration of practical competence

● criteria have to be met fully

● units/qualifications confer licence to practice.

Centres cannot apply their own special consideration; applications for special consideration must be made to Pearson and can be made only on a case-by-case basis. A separate application must be made for each learner and certification claims must not be made until the outcome of the application has been received.

Further information on special consideration can be found in the Joint Council for Qualifications (JCQ) document *Access Arrangements, Reasonable Adjustments and Special Consideration for General and Vocational qualifications*.

Both of the documents mentioned above are on our website.

9 Centre recognition and approval

Centre recognition

Centres that have not previously offered BTEC vocational qualifications need to apply for and be granted centre recognition and approval as part of the process for approval to offer individual qualifications.

Existing centres will be given 'automatic approval' for a new qualification if they are already approved for a qualification that is being replaced by a new qualification and the conditions for automatic approval are met.

Guidance on seeking approval to deliver BTEC vocational qualifications is available at http://qualifications.pearson.com/en/about-us/qualification-brands/lcci/support/becoming-a-centre.html.

Approvals agreement

All centres are required to enter into an approval agreement, which is a formal commitment by the head or principal of a centre, to meet all the requirements of the specification and any associated codes, conditions 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.

10 Quality assurance of centres

Quality assurance is at the heart of vocational qualifications. Centres are required to declare their commitment to ensuring quality and to giving learners appropriate opportunities that lead to valid and accurate assessment outcomes.

Centres must follow quality assurance requirements for standardisation of assessors and internal verifiers and the monitoring and recording of assessment processes. Pearson uses external quality assurance procedures to check that all centres are working to national standards. It gives us the opportunity to identify and provide support to safeguard certification and quality standards. It also allows us to recognise and support good practice.

Centres offering Combined (Competence and Knowledge) qualifications will usually receive two standards verification visits per year (a total of two days per year). The exact frequency and duration of standards verifier visits will reflect the centre's performance, taking account of the:

- number of assessment sites

- number and throughput of learners

- number and turnover of assessors

- number and turnover of internal verifiers.

For centres offering a full Pearson BTEC Apprenticeship (i.e. all elements of the Apprenticeship are delivered with Pearson through registration of learners on a BTEC Apprenticeship framework) a single standards verifier will normally be allocated to verify all elements of the BTEC Apprenticeship programme. Centres should make use of our one-click learner registration to access this facility. If a centre is also offering stand-alone NVQs/Competence-based qualifications in the same sector as a full BTEC Apprenticeship, the same standards verifier should be allocated. If a centre is also offering stand-alone BTEC qualifications in the same sector as a full BTEC Apprenticeship, a different quality assurance model applies.

In order for certification to be released, confirmation is required that the National Occupational Standards (NOS) for assessment and verification, and for the specific occupational sector are being met consistently.

For further details, please go to the *NVQ Quality Assurance Centre Handbook,* the *BTEC Apprenticeships Quality Assurance Handbook* and the *Pearson Edexcel NVQs, SVQs and Competence-based qualifications – Delivery Requirements and Quality Assurance Guidance* on our website.

11 Unit format

Each unit has the following sections.

Unit title

This is the formal title of the unit that will appear on the learner's certificate.

Unit reference number

Each unit is assigned a unit reference number that appears with the unit title on the Register of Regulated Qualifications.

Level

All units and qualifications have a level assigned to them. The level assigned is informed by the level descriptors by Ofqual, the qualifications regulator.

Credit value

All units have a credit value. When a learner achieves a unit, they gain the specified number of credits. The minimum credit value is 1 and credits can be awarded in whole numbers only.

Guided Learning Hours

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.

Unit summary

This summarises the purpose of the unit and the learning the unit offers.

Learning outcomes

The learning outcomes set out what a learner will know, understand or be able to do as the result of a process of learning.

Assessment criteria

Descriptions of the requirements a learner is expected to meet to demonstrate that a learning outcome has been achieved.

Unit amplification

This section clarifies what a learner needs to know to achieve a learning outcome. Amplification is given only for those assessment criteria associated with knowledge-based learning outcomes – assessment criteria for competence learning outcomes are not amplified.

Where an assessment criterion is context specific, amplification is not given. Where this is the case, it is indicated with the statement: '*The knowledge to meet this AC depends on particular organisational requirements and context. Learners need to apply the knowledge specific to their organisation to meet this AC'*.

Information for tutors

This section gives tutors information on delivery and assessment. It contains the following subsections.

- *Suggested resources* – lists resource materials that can be used to support the teaching of the unit, for example books, journals and websites.

- *Assessment* – gives information about the evidence that learners must produce, together with any additional guidance if appropriate. This section should be read in conjunction with the assessment criteria.

- *Delivery* – explains the content's relationship to the learning outcomes and offers guidance about possible approaches to delivery. This section is based on the more usual delivery modes but is not intended to rule out alternative approaches.

- *Assessment Guidance* — gives amplification about the nature and type of evidence that learners need to produce in order to achieve the unit. This section should be read in conjunction with the assessment criteria.

Unit 1: Healthcare Science Services

Unit reference number: D/507/0060

Level: 2

Credit value: 3

Guided learning hours: 20

Unit summary

This unit introduces learners to the development of Healthcare Science in the 21st century and to the current range of Healthcare Science services. The unit also covers the application and interaction of these services within the broader health care environment. Learners will explore how important it is to follow procedures to ensure that quality is maintained and monitored.

Learners will gain an understanding of the roles and responsibilities of members of a Healthcare Science team. They will learn how they can make an effective contribution to the team's work in development and innovation within the context of Healthcare Science.

The unit will help learners to understand the importance of using standard operating procedures (SOPs) and working within the limits of their own role, while developing their skills and abilities within a chosen field.

Learning outcomes and assessment criteria

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

Learning outcomes	Assessment criteria
1 Know how healthcare science services are provided and their interaction with other health care services in the UK	1.1 Describe how the main divisions of healthcare science function in patient care
	1.2 Describe the key functions of the different specialisms within healthcare science in relation to patient care
	1.3 Describe how healthcare science interacts with other healthcare professions

Learning outcomes	Assessment criteria
2 Understand the relevance of healthcare science services to patient care pathways	2.1 Identify the range of services offered by healthcare science service providers
	2.2 Explain the relationship between the provision of healthcare science services and different patient pathways
	2.3 Explain the importance of healthcare science services to patient management, treatment and progress
3 Understand the role of healthcare scientists in person-centred care	3.1 Explain what is meant by 'person-centred care'
	3.2 Explain how person-centred care plans are produced
	3.3 Describe how the key functions of healthcare science contribute to person-centred care
4 Be able to support an audit within healthcare science services	4.1 Explain the difference between audit, research and service improvement
	4.2 State the importance of audit, research and service improvement to healthcare science services
	4.3 Contribute appropriately to audit activity in a healthcare science setting
5 Be able to use Standard Operating Procedures (SOPs) within the healthcare science environment	5.1 Explain the importance of Standard Operating Procedures (SOPs) in the healthcare science working environment
	5.2 Identify relevant contacts for support and advice relating to SOPs
	5.3 Describe the responsibilities for the development of SOPs in healthcare science services
	5.4 Apply relevant SOPs appropriately to own working practice

Learning outcomes	Assessment criteria
6 Know how the healthcare service in the UK developed into the 21st century	6.1 Outline the role of the National Health Service (NHS) in maintaining and improving the health of the United Kingdom population
	6.2 Describe developments in health provision that have influenced the role of healthcare science

Unit amplification

LO1: **Know how healthcare science services are provided and their interaction with other health care services in the UK**

- *Healthcare Science Divisions:* life sciences e.g. toxicology, pathology, clinical genetics, blood transfusion, tissue banking; physiological sciences e.g. critical care, ophthalmology, respiratory physiology, vascular science; clinical bioinformatics e.g. health informatics; physical sciences and biomedical engineering e.g. renal dialysis technology, medical electronics and instrumentation

- *Healthcare Science specialisms:* infection control, histopathology, transfusions, audiology, ophthalmology, rehabilitative technology, renal dialysis technology, radiation safety physics, pharmaceutics

- *Relationship to healthcare science divisions:* supporting/extending treatment, ensuring health and safety, provision of technology

- *Functions of different specialisms:* prevention of infection spread, examination of clinical samples, treatment of illness and disease, assessment of physiological function, improvement of physiological function, ensuring safety during medical procedures, development of new treatments and new technologies

- *Range of health care professions and their functions:* clinical specialists, nurse practitioners, technical staff

- *Roles and functions in health care science:* health care assistants, associates, practitioners

- *Responsibilities of healthcare science professionals:* following protocols, procedures, policies and Standard Operating Procedures (SOPs), e.g. complaints procedures, local policies; maintaining confidentiality; staff training requirements; referral to appropriate authority (manager, supervisor, healthcare science associates)

LO2: **Understand the relevance of healthcare science services to patient care pathways**

- *Providers of healthcare science services:* e.g. NHS trusts, private providers

- *Range of Healthcare Science services:* clinical investigation, renal dialysis, rehabilitative technology, Magnetic Resonance Imaging (MRI), ultra-sound scanning, clinical photography

- *Patient pathways:* diagnosis and monitoring of illness and disease e.g. electro-cardiograms, MRI scans, examination of clinical samples; investigation of physiological function e.g. audio-metric testing, vision tests; support/replacement of physiological function e.g. renal dialysis, respiratory function; increased mobility/self-care e.g. fitting of prosthetic limbs

- *Patient management:* assessment of symptoms, diagnosis of illness and disease, support of physiological function; treatment e.g. linking treatment to results of clinical investigations, administration of medication; use of technology to monitor progress and efficacy of treatments

LO3:   Understand the role of healthcare scientists in person-centred care

- *Key principles of person-centred care:* individual at the centre of the plan, consultation of individual at all stages of planning, recognition of family and friends as partners, recognising an individual's right to refuse care, production of a plan of action built on what is appropriate for the individual

- *Details of person-centred care plan:* i.e. content, purpose, aims and objectives, risk assessment; monitoring and evaluation of plans; person-centred care in own area of healthcare science

LO4:   Be able to support an audit within healthcare science services

- *Audit:* purpose and objectives, e.g. measurement of existing practice against evidence-based clinical standards including process and outcomes

- *Research:* purpose and objectives, e.g. investigation of the effects of existing and new treatments, comparison of treatments and techniques, development of new technologies, extension of current knowledge

- *Service improvement:* purpose and objectives, e.g. introduction/evaluation of new treatments/technologies, ensuring levels of service to meet demands of legislation, in response to complaints by users of service

- *Importance of an audit:* maintenance of quality assurance, detection of errors, provision of accurate evidence for regulatory bodies

- *Importance of research:* up-to-date practice, meeting patient needs

- *Importance of service improvement:* ensuring a high quality service which meets the needs of users of the service

- *Responsibilities of healthcare science professionals for audit, research and service improvement:* maintenance of health and safety to self and others, adherence to relevant rules, regulations, legislation, accurate recording where relevant, obtaining valid and informed consent, ensure consideration of ethics e.g. confidentiality, not harming individuals

LO5: **Be able to use Standard Operating Procedures (SOPs) within the healthcare science environment**

- *Types of SOPs:* e.g. informed consent, completion of case report form, adverse event reporting, inspection and testing of equipment, safety evaluations ; purpose and use of SOPS, e.g. prevention of adverse events/incidents, maintenance of a safe environment, supporting the safety of individuals, adherence to regulations and legislation

- *Relevance of SOPs in healthcare science:* appropriate use of technology, use of hazardous substances, presence of infectious materials, increased resistance of hostile organisms to standard measures

- *Relevance of SOPs to own job role:* in-line with occupational standards, involvement with users of the service, prevention of accidents and incidents involving users of services, colleagues

- *Responsibilities for development of SOPs:* Health England, NHS Trusts, private companies that provide healthcare science services, accountable officers (AOs)

- *SOPS relevant to own role and related tasks*

- *Sources of advice when unsure of procedure*

LO6: **Know how the healthcare service in the UK developed into the 21st century**

- *Development of the NHS in the21st century:* development of SOPs to all areas of provision, clinical audits, development of technologies, implementation of infection control champions within NHS centres, health promotion through education, screening

- *The role and objectives of the NHS:* to promote health, provide healthcare designed to meet diverse needs, to prevent further harm to individuals

- *Developments in the health service:* development of new technologies, screening techniques and genetic techniques

- *Changes in the health service:* greater use of technologies, development of prosthetics, the need for rehabilitative technologies to support individuals wounded in conflict

- *Impact of changes on service user care:* reduction in in-patient care, increased use of technology including robotic surgery, increased effectiveness of diagnosis through the use of diagnostic tools, e.g. Magnetic Resonance Imaging (MRI)

- *Impact of recent changes on personal role and responsibilities:* e.g. increased awareness of legislation, policies and the need to adhere to them, need to up-date skills and knowledge in own area

Information for tutors

Delivery

The following delivery guidance is not intended to be prescriptive. Those delivering the programme of learning can adapt the guidance to meet the needs of learners, employers and the specific context.

This unit is the foundation that supports the delivery of the rest of the programme, and should therefore be delivered first in the programme of learning. It should be delivered using a balanced mix of on-the-job and off- the- job training to develop the knowledge and skills covered init.

Learning outcome 1 would best be delivered off the job, where learners could use the websites listed in the *Suggested resources* section to conduct research on the roles and functions of the main divisions and specialisms in healthcare science and the relationship that exists between them. Learners could then discuss their findings with other learners or colleagues, this discussion could be supported with an interactive talk delivered by an experienced healthcare science practitioner. The talk could focus on the functions and responsibilities of different job roles in healthcare science and how they interact with a range of roles in other healthcare professions. It is important that learners are given the opportunity to ask questions arising from their research and to consolidate their learning.

As with learning outcome 1, learning outcomes 2 and 3 are better delivered mainly through off-the-job training and then reinforced by on-the-job coaching. Learning activities such as case studies, reflective practice and discussions could be used in the off-the-job training. Learning from these activities could then be supported by on-the-job coaching on producing person-centred care plans.

Learning outcomes 4 and 5 are best delivered mainly through on-the-job training with some independent research to consolidate learning. Learning activities such as observation, shadowing, coaching, mentoring and reflective practice could be used to meet these learning outcomes. Learners should have the opportunity to discuss their learning with others (for example in a training workshop) and should receive constructive feedback and development support throughout the learning process to improve their practice. The delivery of these two learning outcomes should be linked to the delivery of learning outcome 5 in *Unit 2: Employee Rights, Responsibilities and Personal Development in Healthcare Science* and learning outcome 1 in *Unit 4*:*Investigating, Treating and Managing Human Disease and Disorder.*

Learning outcome 6 could be delivered through off-the-job training with the support of on-the-job mentoring. Learning activities such as research, expert speakers, reflective practice and case studies could be used in the off-the-job training. Learners could use the NHS website to research the development timelines of the NHS and its role and objectives. This could be reinforced by a talk from an expert speaker. Reflective practice and case studies could be used to look at the changes and developments in health provision and their impact on patient care and job roles and responsibilities. Learners could then discuss with their mentors how any recent changes have had an impact on their own role and responsibilities

Suggested resources

Books

HSE Health Services Advisory Committee- *Safe Working and the Prevention of Infection in Clinical Laboratories and Similar Facilities* (HSE Books, 2003) ISBN 9780717625130

Myers B, Shaw L – *The Natural Sciences – Access to Higher Education* (Nelson Thornes, 2004) ISBN 9780748785834

Websites

www.ahcs.ac.uk – Academy for Healthcare Science – brings together the UK's diverse and specialised scientific community who work across health and care

www.nhscareers.nhs.uk – NHS Careers, gives information on the different career options in healthcare science

www.nhsemployers.org/your-workforce/plan/healthcare-science-workforce — this link gives information on the benefits of working within a healthcare science workforce

www.nhs.uk/NHSEngland/thenhs – National Health Service, the '*NHS history'* section details the development timelines of the NHS and its functions

www.nshcs.org.uk – National School for Health Care Science – supports training and maintenance of standards in healthcare science

personcentredcare.health.org.uk/person-centred-care – the '*Shared decision making'* section on this site provides access to a number of short video clips of health professionals discussing their own approaches to person-centred care. This resource can be used by tutors as a basis of discussion, or by learners as part of independent study

www.yh.hee.nhs.uk – NHS Health Education Yorkshire and the Humber, has an education and training section that gives information on modernising scientific careers. Search for 'modernising scientific careers'

Other

Journal of Epidemiology and Community Health (BMJ Group)-

New Scientist (Reed Business Information Ltd)

Assessment

This unit is internally assessed. To pass the unit the evidence that the learner presents for assessment must demonstrate that they have met the required standard specified in the learning outcomes and assessment criteria and the requirements of the assessment strategy.

To ensure that the assessment tasks and activities enable learners to produce valid, sufficient, authentic and appropriate evidence that meet the assessment criteria, centres should apply the *Unit assessment guidance* provided and the requirements of the assessment strategy given in *Annexe A*. This should be read in conjunction with *Section 8: Assessment.*

Wherever possible, centres should adopt an holistic approach to assessing the units in the qualification. This gives the assessment process greater rigour and minimises repetition, time and the burden of assessment on all parties involved in the process.

Unit assessment guidance

This guidance supports assessors in making decisions about how best to assess each unit and the evidence needed to meet the requirements. Centres can adapt the guidance as appropriate for learners and the particular assessment context.

The centre will devise and mark the assessment for this unit.

Guidance for the assessment of this unit is given below. This should be read in conjunction with *Section 8: Assessment*.

To provide evidence of achievement **for learning outcome 1**, the learner should produce:

- a report summarising patient care functions of healthcare science divisions and their relationships to different healthcare science specialisms. The report should cover at least **two** specialisms and their functions (AC1.1 and 1.2)

- a reflective report into at least **one** other healthcare profession, its relationship with healthcare science and its interaction with their own work role. (AC1.3)

Evidence to demonstrate the achievement of **learning outcome 2** should come from a professional discussion or a question and answer session with the learner. The learner needs to provide descriptions of at least **three** providers of healthcare science services and explain at least **two** different patient pathways (AC2.1 and AC2.2). To meet AC2.3, the learner needs to explain at least **two** reasons why healthcare science services are important to patient management, treatment and progress.

To provide evidence of achievement for **learning outcome 3**, the learner should produce a report detailing at least **two** examples of how they have applied a person-centred approach and the details of **at least one** care plan (AC3.1 and AC3.2). To meet AC3.3, the learner should describe the role of the healthcare science services in person-centred care with an emphasis on the contribution of their own area of healthcare science.

Evidence to demonstrate the achievement of **learning outcome 4** should come from a combination of observation of the learner, question and answer and a report. The learner should be observed supporting at least **one** audit activity; the evidence from the observation could then be supported by a question and answer session and a review of any relevant product evidence, for example documents they may have produced to support the audit.

Within the question and answer session learners should outline their responsibilities for audit, research and service improvement in their organisation (AC4.3). To meet AC4.1 and AC4.2, the learner should produce a report outlining the purpose of audit, research and service improvement and the importance of each of these to healthcare science services.

Evidence to demonstrate the achievement of **learning outcome 5** should come from a combination of observation of the learner, witness testimony, product evidence and question and answer. Learners need to provide evidence of applying at least **two** Standard Operating Procedures (SOPs). This evidence can be gathered through a combination of observation of the learner carrying out relevant job activities, product evidence arising from the use of the SOPs and witness testimony from the learner's line manager or relevant colleagues (AC5.4). Learners should identify at least one relevant contact for advice on SOPs (AC5.2).

The question and answer session should be used to assess the learner's knowledge and understanding of the responsibilities for developing SOPs in their own organisation, sources of advice for clarification on SOPs and the importance of SOPs. The learner needs to explain at least **two** reasons why SOPs are important (AC5.1, 5.3. 5.4). To reduce the assessment burden the assessment of this learning should be integrated with the assessment of learning outcome 3 in *Unit 2:Employee Rights, Responsibilities and Personal Development in Healthcare Science* and learning outcome 1 in *Unit 4: Investigating, Treating and Managing Human Disease and Disorder*.

To provide evidence for **learning outcome 6** the learner should produce a report outlining how at least **two** key changes in health provision have impacted on their work role. The account should describe at least **two** key developments in the NHS relevant to healthcare sciences and improving public health.

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Unit 2:

Employee Rights, Responsibilities and Personal Development in Healthcare Science

Unit reference number: J/507/0067

Level: 2

Credit value: 3

Guided learning hours: 20

Unit summary

This unit develops learners' knowledge of employee key rights and responsibilities of employees and employers. Learners will explore career advancement opportunities in their own industries.

Learners will work within the organisation's codes of practice. They will also use effective study skills, including reflective practice in developing an informed view of issues of public concern related to the healthcare science industry.

This unit conforms to the requirements for Employee Rights and Responsibilities (ERR) as required by the Apprenticeship Standards for England (SASE)

Learning outcomes and assessment criteria

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

Learning outcomes	Assessment criteria
1 Know key rights and responsibilities within own organisation	1.1 Describe the range of employer and employee statutory rights and responsibilities under employment law
	1.2 Outline procedures within own organisation that protect own relationship with employer
	1.3 Identify sources of information and advice available on employment rights and responsibilities

Learning outcomes		Assessment criteria	
2	Know career progression opportunities within own industry	2.1	Describe the role played by own occupation within organisation and industry
		2.2	Outline types of career pathway available within own industry
		2.3	Describe the relevance of representative bodies related to own occupation
		2.4	Identify where to get information and advice on own occupation, training and career
		2.5	Discuss a work-related issue that affects own organisation and industry
3	Be able to work within organisations codes of practice	3.1	Describe different types of codes of practice relevant to own work role
		3.2	Explain the implications of not following appropriate practice and procedures in own work role
		3.3	Carry out own work according to organisation's principles and code of conduct
4	Be able to use study skills to continuously develop personal performance	4.1	Develop a personal study plan appropriate to their current position in own place of work
		4.2	Develop a reflective diary that aids continual personal development

Unit amplification

LO1:   Know key rights and responsibilities within own organisation

- *Legislation:* apprentice rights and responsibilities under Employment Rights Act 1996; responsibilities and duties of employers

- *Procedures:* e.g. grievance procedures, redundancy and dismissal procedures, appeals procedure

- *Documentation:* e.g. contract of employment

- *Internal sources of information:* e.g. Human Resources, trade union representatives

- *External sources of information:* e.g. Citizens Advice Bureau, professional bodies

- *Advisory bodies:* Advisory, Conciliation and Arbitration Service, (ACAS)

LO2:   Know career progression opportunities within own industry

- *Relationship with own role and other parts of own organisation*: potential development routes, transferable skills and opportunities

- *Relevant representative bodies,* e.g. trade unions, Health and Care Professionals Council, Association of Anatomical Pathology Technology (AAPT), The Royal Society for Public Health

- *Roles and responsibilities:* e.g. advising on employment rights, access to training, opportunities for Continuing Professional Development, (CPD), regulation of standards

- *Sources of relevant information:* e.g. HR, Health and Care Professions Council, representative body related to own specialism, websites

- *Work-related issue:* can be something in which the learner is interested or suggested by tutor to encourage learners to engage with particular issues

LO3:   Be able to work within organisations codes of practice

- *Types of practice:* e.g. safe use of equipment, use of appropriate personal protective equipment (PPE), person-centred approach to work with service users

- *Standard Operating Procedures (SOPs):* e.g. safe use of equipment, lines of reporting, storage of documents, disposal of clinical samples, infection prevention and control

- *Risk of errors in practice*

- *Risk to health and safety of self, colleagues, patients*

- *Risk to reputation of the organisation*

- *Risk to reputation of profession (s)*

- *Modelling inappropriate practice to colleagues*
- *Risk of litigation from affected others*
- *Loss of employment/disciplinary action by employer(s)*
- *Good scientific practice*
- *Good technical practice relevant to career pathway*
- *Standard Operating Procedures (SOPs) relevant to work role*
- *Applying organisational policies and procedures*

LO4: Be able to use study skills to continuously develop personal performance

- *Purpose and uses of a study plan:* e.g. outlining study time, setting learning goals, monitoring own progress

- *Format of a study plan:* e.g. aims and objectives, schedule for study including completion of course work, exam preparation

- *How to develop a study plan:* e.g. create a time chart of current activities, develop a schedule, determine study goals, monitor own progress, adapt plan as appropriate

- *Purpose and use of a reflective diary*

- *Diary includes:* ability to carry out given tasks; confidence; relationships with colleagues, peers, line manager, patients

Information for tutors

Delivery

The following delivery guidance is not intended to be prescriptive. Those delivering the programme of learning can adapt the guidance to meet the needs of learners, employers and the specific context.

Learning outcome 1 — for this outcome learners will gain much of the required information from in their workplace so will need access to relevant documents within their area of work. Taught sessions on legislation and relevant external sources and advisory bodies will underpin understanding. Internet research will help to provide pertinent information. Learners should also be encouraged to consult relevant sources for example, human resources and trade union representatives in their organisation

In addition, input from guest experts such as a representative from ACAS, would enhance learner understanding of the relevant information.

Learning outcome 2 — for this outcome, learners will find much of the required information in their own organisation. In order for learners to meet AC 2.1 Access to information on how their own role fits in their organisation is essential.

Internet research on the relevant bodies related to the learner's occupation will be of use, together with input from representatives of the organisation's s human resource department, local trade union representatives and senior colleagues including supervisors and mentors.

To ensure the relevance of the issue to their own role in the organisation learners may wish to discuss various work-related issues with senior colleagues before deciding upon a topic of study

Learning outcome 3 — for this outcome, learners will find the relevant information in their own work area. Discussions with mentors and supervisors, together with access to Standard Operating Procedures (SOPs) that apply to the learner's work role. Observation of senior colleagues during the working day will enhance understanding of the application of SOPs to ensure good practice in all areas of the work role.

Feedback from mentors and supervisors will support learners in carrying out their work in accordance with the organisation's principles and codes of conduct. In order to identify areas of strengths and areas for improvement learners could produce a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis or a reflective log of their practice.

Learning outcome 4 — learners will benefit from an explanation of the format and purposes of a personal study plan and reflective diary. A short taught session on professional and personal reflection will support learners in developing methods of reflection, for example the use of Gibbs reflective cycle.

Regular one-to-one tutorials will support the monitoring of the study plan and reflective diary.

Suggested resources

Books

Thompson S, – *The Critically Reflective Practitioner*, 3rd Edition (Open University Press, 2010) ISBN 9780335238354

Websites

www.acas.org.uk – this website provides information on employment rights
http://www.kent.ac.uk/learning/PDP-and-employability/pdp/reflective.html — describes the principles of reflective learning

www.gov.uk/government/uploads/system/uploads/attachment_data/file/32184/10-1202-starting-out-your-employment-rights.pdf – this resource links to a PDF document containing a number of work-related scenarios that can be used as a basis for class discussion.

www.hcpc-uk.org – this website provides information on standards published by the Health and Care Professions Council

Other

Community Care Magazine (Reed Business Information Ltd)

New Scientist (Reed Business Information Ltd)

Assessment

This unit is internally assessed. To pass this unit the evidence that the learner presents for assessment must demonstrate that they have met the required standard specified in the learning outcomes and assessment criteria and the requirements of the assessment strategy.

To ensure that the assessment tasks and activities enable learners to produce valid, sufficient, authentic and appropriate evidence that meet the assessment criteria, centres should apply the *Unit assessment guidance* provided and the requirements of the assessment strategy given below. This should be read in conjunction with *Section 8 Assessment.*

Wherever possible, centres should adopt an holistic approach to assessing the units in the qualification. This gives the assessment process greater rigour and minimises repetition, time and the burden of assessment on all parties involved in the process.

Unit assessment guidance

This guidance supports assessors in making decisions about how best to assess each unit and the evidence needed to meet the requirements. Centres can adapt the guidance as appropriate for learners and the particular assessment context.

● The centre will devise and mark the assessment for this unit.

Guidance for the assessment of this unit is given below. This should be read in conjunction with *Section 4 Assessment*.

Achievement of **learning outcome 1** could be through the production of a report on the key rights and responsibilities of the learner, within their own organisation. The report should contain:

● the full range of employer and employee statutory rights, referring to the correct of employment law, but they should demonstrate an ability to relate the relevant sections sections of employment law. It is not essential that learners at this level show a full understanding to their work role (AC1.1)

● an outline of at least **two** procedures within their own organisation, which protect the learner's own relationship with their employer (AC1.2)

● at least **two** sources of information and **two** sources of advice on employment rights and responsibilities (AC1.3)

Achievement of **learning outcome 2** could be through the production and delivery of a presentation on career progression opportunities available to the learner.

The presentation should contain:

● a detailed description of **at least two** examples of the learner's own role within their organisation and **at least two** examples, of their role in the industry (AC 2.1)

● an outline of **at least two** types of appropriate career pathway available in the learner's own industry (AC2.2)

● a description of the relevance of **at least two** representative bodies relevant to their own occupation (AC 2.3)

● **at least two** sources of information and **at least two** sources of advice on the learner's own occupation, training and career (AC2.4)

Learners should also produce a short report that discusses **at least one** current and work related issue, affecting their own organisation and industry, (2.5).

Achievement of **learning outcome 3** could be through the production of a document that:

- describes **at least two** different types of practice and **at least two** Standard Operating Procedures, (SOPs), relevant to the learner's own work role (AC3.1)

- explains **at least two** implications of the learner not following the chosen practices and Standard Operating Procedures, (SOPs), when carrying out their own work role (AC 3.2)

Learners must also produce evidence on **at least two** occasions, when they have carried out their own work according to the organisation's principles and codes of practice. The evidence could be in the form of witness statements signed by an appropriate senior colleague (AC3.3).

Achievement of **learning outcome 4** must be through the production of a personal study plan that includes **at least two** goals and **at least two** targets. The plan should be a working document and include evidence of monitoring and revision to meet changing circumstances, work requirements, discussions with tutors and mentors (AC4.1). The plan should follow a recognised format.

Learners must also produce a reflective diary conducted over at least six months that demonstrates reflection, on areas of strengths and areas for improvement with regard to all of the following:

- the learner's ability/developing ability to carry out tasks

- confidence

- relationships with colleagues, peers, line manager, service users (AC 4.2)

Unit 3: Working in Partnership in Healthcare Science

Unit reference number: J/507/0072

Level: 2

Credit value: 3

Guided learning hours: 26

Unit summary

This unit builds on *Unit 1: Healthcare Science Services* and requires learners to work in partnership with colleagues in healthcare science and with other related professionals. Exploration of key policies and practices in terms of communication, confidentiality, data protection, diversity and equal opportunities are included.

Learners will develop an understanding of the importance of using clear communication with patients, colleagues and other professionals, showing their ability to communicate technical and non-technical information to a range of people. Learners will maintain clear, correct patient records and other documentation. They will also explore the importance of presenting a positive image of themselves and the healthcare science service in the workplace.

Learning outcomes and assessment criteria

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

Learning outcomes	Assessment criteria
1 Understand the importance of communication in the healthcare science environment	1.1 Explain why effective communication is vital within healthcare settings
	1.2 Explain what is meant by active listening skills
	1.3 Explain the consequences of poor communication in healthcare science settings

Learning outcomes	Assessment criteria
2 Be able to maintain documents and records in healthcare science settings	2.1 Complete and maintain records of patient and business information according to organisation protocols
	2.2 Explain the implications of not maintaining records and documents correctly in a healthcare science setting
3 Be able to develop working relationships with colleagues and other professionals	3.1 Describe relevant regulations that can affect working relationships
	3.2 Describe behaviours that may adversely affect working relationships
	3.3 Describe behaviours that may assist with resolving difficulties in working relationships
	3.4 Describe problems which may affect working relationships with colleagues
	3.5 Explain why it is important to request help from others in a polite and timely manner
	3.6 Explain why it is important to offer assistance to others when help is needed
	3.7 Take actions to develop positive working relationships with colleagues and other professionals within limits of own responsibility
4 Be able to communicate technical and non-technical information to a range of people	4.1 Provide clear and concise information on own technical work activities
	4.2 Use different techniques to communicate technical and non-technical information to a range of people.
5 Know how to present a positive image of: • self • organisation • service in healthcare settings	5.1 Describe how to present a positive image of self to work contacts
	5.2 Describe how to present a positive image of own organisation and the healthcare science service
	5.3 Outline the implications of presenting a negative image of self, own organisation and the healthcare science service

Learning outcomes	Assessment criteria
6 Understand how to respect the dignity, privacy and confidentiality of service users	6.1 Explain how to show respect for the dignity and privacy of service users
	6.2 Explain how to ensure confidentiality in own working context
	6.3 Explain the implications of a breach of confidentiality of patient and business information

Unit amplification

LO1: **Understand the importance of communication in the healthcare environment**

- *Types of communication:* speech and language, including use of a service user's preferred language non-verbal including posture, eye contact, facial expressions, gestures; alternative forms e.g. British Sign language, (BSL), signs and symbols, communication passports; written documents; technological e.g. text, mobile phones, email

- *What make a good communicator:* e.g. clear speech, non- defensive body language, not using jargon and acronyms, use of age appropriate language, awareness of alternative forms of communication, polite tone, appropriate pace and pitch

- *Active listening:* definition, e.g. giving full attention to the communicator, maintaining eye contact, smiling when appropriate, nodding the head, appropriate body orientation, reflective facial expressions, not fidgeting

- *Listening techniques:* e.g. use of reflection and paraphrasing to clarify understanding

- *Consequences of poor communication in healthcare settings:* e.g. errors of practice, neglect and mistreatment of patients, creation of barriers between practitioners and patients, colleagues, other*s*

LO2: **Be able to maintain documents and records in healthcare settings**

- *Type of patient information:* e.g. medical history, prescription records, records of diagnostic tests and results

- *Business information:* e.g. contracts, orders for equipment and materials

- *Legislation:* Data Protection Act (2003) — responsibilities under the Data Protection Act 2003, e.g. not requesting unnecessary information about service users, not retaining information longer than necessary, secure storage, maintaining confidentiality, disposal of documents in line with the legislation, accurate recording of information

- *Organisational policies, practices and documents for ensuring confidentiality within and outside of work*: e.g. safe storage of information including electronic storage, not leaving documents in public places, not sharing secure passwords, not leaving computer screens accessible to service users, visitors, not discussing confidential information outside of agreed teams, not discussing one service user's information with another, not discussing work information at home, in public places

- *Implications of not maintaining records and documents correctly:* errors e.g. wrong procedures carried out, equipment and machinery not fully functional due to omitted checks, misdiagnosis of service users, samples lost/misplaced, mistakes in medication, other treatments

- *Types of documents in the healthcare setting:* e.g. patient notes, records of test results, records of trials and experiments, medical prescriptions

- *Procedures/protocols and practices for completing documentation*

LO3: **Be able to develop working relationships with colleagues and other professionals**

- *Regulations that can affect working relationships:* Equality Act 2010, diversity, disability, equal opportunities, discrimination, harassment, protected characteristics,

- *Actions and behaviours that may adversely affect working relationships:* e.g. not passing on essential information, poor care of equipment, not clearing away equipment and samples, verbal aggression, rudeness, not completing allotted tasks, not supporting colleagues

- *Importance of being polite and helpful at all times:* e.g. promoting positive atmosphere in the workplace, promoting teamwork, enabling tasks to be completed

- *Problems that may affect working relationships:* e.g. personal issues, misunderstandings, poor communication between colleagues

- *Actions and behaviours that may assist with problem resolution:* e.g. listening to colleagues, clarifying misunderstandings

- *Problems with:* colleagues, supervisor, manager, team leader, occupational support advisor

- *Who and how to refer requests for information and/or assistance outside own area/level of responsibility:* knowing scope of own responsibilities, how/when/who to refer to

- *Politeness:* e.g. appropriate tone, non-defensive body language, use of preferred names and titles, active listening skills

- *Timely manner:* e.g. according to organisational timescales

- *Who and how to help with requests for information and/or assistance*

- *Positive working relationships:* clear communication, discussing concerns, dealing with disagreements, apologising for errors and misunderstandings, supporting colleagues with tasks where appropriate

LO4: Be able to communicate technical and non-technical information to a range of people

- *Types of technical information:* e.g. status of equipment, use of equipment, results of tests and examinations, methods for completing tasks

- *Types of non-technical information:* e.g. staff rotas

- *Communication methods:* e.g. speech and language, written documents records, notices and posters, email, text, telephone land-line and mobiles

- *Communication techniques:* e.g. clear and concise information on work activities of a technical nature

- *Communication with:* colleagues, team leader

- *Appropriate person may include:* e.g. manager, team leader, etc.

- *Typical requests for information:* e.g. test results

- *Limits of responsibility:* i.e. job description, discussion with line manager etc

LO5: Know how to present a positive image of:

- **self**

- **organisation**

- **service**

in healthcare settings

- *Factors involved in presenting a positive image of self:* dress, e.g. appropriate uniform, smart clothing, hygienic clothing; personal hygiene, e.g. hand washing, regular showers/baths, clean hair, changing of personal clothing; personal behaviour, e.g. use of handkerchief, combing hair, not wearing excessive makeup or jewellery

- *Factors involved in presenting a positive image of healthcare science service:* e.g. demonstrated competence, person-centred approach to interaction with service users, professional appearance of personnel

- *Implications of presenting a negative image of the healthcare science service:* reduction of public confidence in the service, increased monitoring by government bodies, potential reduction in funding

LO6:   Understand how to respect the dignity, privacy and confidentiality of service users

- *Definitions of dignity and privacy in the healthcare science context:* i.e. treating service users and all records, samples and other clinical materials related to that individual with respect and consideration; disclosing information only to agreed persons.

- *Actions and behaviours to ensure dignity:* e.g. using respectful tone, using preferred names and titles, not displaying humour at inappropriate times, service user's misunderstandings of terms and procedures

- *Actions and behaviours to ensure privacy:* e.g. use of screens and curtains when performing procedures, respecting personal space where possible, securing storage of biopsies and other pathological materials relating to individual service users.

- *Ensuring confidentiality in the working context:* planned contact with service users, donors, carers; potential contact with service users, donors, carers; confidentiality policies and procedures

- *Implications of a breach of confidentiality:* adverse publicity for the organisation and the service; distress for service users, families and friends; potential misuse of confidential information; litigation by service users and families against individuals and organisations; disciplinary procedures/dismissal from post

Information for tutors

Delivery

The following delivery guidance is not intended to be prescriptive. Those delivering the programme of learning can adapt the guidance to meet the needs of learners, employers and the specific context

Learning outcome 1 could be delivered outside the workplace, using a combination of taught sessions that incorporate demonstrations of communication methods and skills. Speakers with expertise in alternative forms of communication, for example British Sign Language (BSL), or the use of communication passports, will enhance understanding.

Video clips can be used to give learners relevant visual images and contexts.

In order to identify areas of strength and the need for improvement learners could take part in a role-play, for example a role play of a team meeting and be peer assessed,

Taught sessions on relevant legislation, together with interactive discussions based around media cases, will support learner understanding of **learning outcome 2**. Learners could be given examples of pro forma documents used in the work place. Class activities could include completion of forms and documents, based on case studies provided by the tutor (downloaded, for example from the BBC website) or taken from professional magazines such as Community Care, or recordings of television documentaries.

Learners should be encouraged to investigate the types of and relevant policies and procedures used in their own area of work. Taught sessions on relevant legislation, combined with individual research using internet sites and library facilities, will give learners appropriate information for **learning outcome 3**. Opportunities to ask questions and relate information to their own area of work will underpin knowledge gained by other means.

Interactive discussions on behaviour, giving learners opportunities to discuss pertinent issues, will support their understanding. Learners should be encouraged to familiarise themselves with relevant regulations from reliable sources such as the Health and Care Professions website and their own organisation.

For **learning outcome 4**, learners could investigate the types of communication used in their own area of work, while avoiding breaches of confidentiality. Maintaining a reflective record of their own communication in various work contexts, will support them in identifying their areas of strength and those in need of improvement.

Interactive class discussions on appropriate, professional communication and issues will support learners in developing confidence in communicating technical information.

Evidence of achievement for **learning outcome 5** could come from group work to identify a positive self–image in the workplace. This, followed by group presentations, will encourage interactive discussion on the topic.

Individual research on the reasons for personal hygiene could underpin class discussion. Learners need to be aware that information obtained from their research could be sensitive.

To widen the discussion examples of good and bad practice could be provided by learners and tutors.

Invited speakers who work in healthcare science could provide valuable input on the reasons for presenting a positive image of healthcare science, and the implication of presenting a negative image.

Learning outcome 6 could be delivered outside the work place through taught sessions and input from relevant speakers. Individual research, followed by class discussion, will enable learners to understand the main points of the topic. Class discussions based around suitable case studies, obtained from professional magazines, reliable websites, or produced by the tutor would underpin knowledge gained by other methods. Group work on possible breaches of confidentiality in the healthcare science workplace followed by class discussion will consolidate learning.

Learners should be encouraged to keep a reflective journal, whilst maintaining patient and organisational confidentiality, of their own day-today observations of respect and dignity when interacting with patients. This would support professional development, as well as being a source of reference for assessment.

Suggested resources

Books

Glasby J, Dickinson H – *Partnership Working in Health and Social Care* (The Policy Press, 2008) ISBN 9781847420169

Hugman B – *Healthcare Communication* (Pharmaceutical Press, 2009)
ISBN 9780853697497

Websites

www. Dataprotection act.org/1.htm – this website gives the eight principles of the Data Protection Act 1998

www.mulho.com – Mulbery House, this website provides details of a package for purchase, containing a DVD and printable resources on communication in healthcare settings

www.rcn.org.uk/__data/assets/pdf_file/0006/414645/Baillie_L.pdf – Royal College of Nursing, this link provides access to a case study on providing dignity and respect for users of healthcare services, which could be used to stimulate interactive class discussions for learning outcome 6.

www.skillsyouneed.com/ips/active-listening.html – Skills You Need, provides information on the key principles of active listening

Other

Community Care Magazine (Reed Business Information Ltd)

Assessment

This unit is internally assessed. To pass this unit the evidence that the learner presents for assessment must demonstrate that they have met the required standard specified in the learning outcomes and assessment criteria and the requirements of the assessment strategy.

To ensure that the assessment tasks and activities enable learners to produce valid, sufficient, authentic and appropriate evidence that meet the assessment criteria, centres should apply the *Unit assessment guidance* provided and the requirements of the assessment strategy given in *Annexe A*. This should be read in conjunction with *Section 8 Assessment.*

Wherever possible, centres should adopt an holistic approach to assessing the units in the qualification. This gives the assessment process greater rigour and minimises repetition, time and the burden of assessment on all parties involved in the process.

Unit assessment guidance

This guidance supports assessors in making decisions about how best to assess each unit and the evidence needed to meet the requirements. Centres can adapt the guidance as appropriate for learners and the particular assessment context.

The centre will devise and mark the assessment for this unit.

Guidance for the assessment of this unit is given below. This should be read in conjunction with *Section 4 Assessment*.

The centre will devise and mark the assessment for this unit.

Learners must meet all assessment criteria to pass the unit.

Assessment evidence collected for this unit may include:

● observation

● questioning

● discussion

● reflective reporting and application of learning in the workplace.

In order to achieve **learning outcome 1** learners should produce:

● a report on the importance of effective communication within the healthcare science workplace, referring to the consequences of poor communication with all of the following: colleagues, a manager/supervisor, other healthcare professionals and a patient/donor (AC1.1, AC 1.3). Learners must include at least **two** examples of active listening skills (AC1,2)

In order to achieve **learning outcome 2** learners must produce:

● a signed witness statement from a senior member of staff, describing the learner's competence in completing and maintaining **two** types of relevant records. (AC 2.1)

● a report on the implications of **at least one example** of not maintaining accurate records and breaching confidentiality (AC2.2)

In order to achieve **learning outcome 3** learners must produce an information pack on behaviour in the workplace that should contain a section to meet the requirements of each assessment criterion. The pack should include the following:

- learners should provide examples of legislation in relation to **at least the following**: diversity, disability, equal opportunities, discrimination, harassment (AC3.1)

- learners should include **at least two** examples of behaviour from each of the categories mentioned in AC3.1 above (AC3.2)

- examples of how to resolve **all** the behaviour issues mentioned in 3.2 above (AC3.3)

- examples of problems should be given involving **at least two** of the following: colleague, supervisor, manager, team leader, occupational support advisor (AC3.4)

- learners should explain **at least two** examples from real work activities (AC3.5)

- learners should explain **at least two** examples of the importance of offering assistance (AC3.6)

- supervisors should confirm **at least one** example of developing positive working relationships with both the learner's colleagues and other professional (AC3.7)

To achieve **learning outcome 4**, learners must produce evidence of their own technical work activities (AC4.1) and their ability to communicate a range of relevant information in the workplace. Evidence for AC4.2 should be in the form of **two** signed witness statements, verifying that the learner has demonstrated competence in communicating technical and non-technical information to (a) a colleague, and (b) a team leader

To achieve **learning outcome 5** learners should produce a report on the presentation of a positive image of self, the organisation and service, referring to all relevant sections of the unit content (ACs 5.1, 5.2, 5.3)

Evidence should refer to the effects of positive and negative images on self, the organisation and the healthcare science service, giving at least **one** example of each.

To achieve **learning outcome 6** learners should present following evidence:

- a report on how to ensure the dignity, privacy and confidentiality of service users in their own area of work (AC6.1,AC6.2). The report should also include an explanation of **at least one** example of a breach of confidentiality within a healthcare science setting (AC6.3).

Unit 4:   Investigating, Treating and Managing Human Disease and Disorder

Unit reference number: K/507/0062

Level: 2

Credit value: 2

Guided learning hours: 17

Unit summary

This unit gives learners an introduction to the broad range, applications and limitations of techniques for investigating, diagnosing, treating and managing disease and disorders. Learners will consider how protocols for basic investigations can be applied in a work context.

Learners will explore how bioinformatics and other relevant applications can be used to record data. They will also look at the part personal protective equipment (PPE) plays in infection control in healthcare science services.

Learning outcomes and assessment criteria

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

Learning outcomes	Assessment criteria
1 Be able to use protocols and Standard Operating Procedures, (SOPs) in the investigation and diagnosis of disease and disorders	1.1 Describe the purpose of Protocols and Standard Operating Procedures (SOPs) in the investigation, diagnosis, treatment and management of disease and disorders
	1.2 Describe the limitations of protocols and SOPs in the investigation and diagnosis process
	1.3 Follow protocols and SOPs in carrying out basic investigations and diagnoses of diseases and disorders in own work role

Learning outcomes	Assessment criteria
2 Know the scope of services within healthcare science used to investigate, diagnose, treat and manage human disease and disorders	2.1 Describe the range of services within healthcare science for investigating human disease and disorders 2.2 Describe the range of services within healthcare science for diagnosing human disease and disorders 2.3 Describe the range of services within healthcare science for treating and managing human disease and disorders
3 Know information systems commonly used within healthcare science	3.1 Describe different types of information systems most commonly used within healthcare science 3.2 Describe how different information systems are used in the diagnosis, treatment and management of diseases and disorders
4 Understand key principles and practice of infection prevention across health services	4.1 Describe the standard precautions for hand hygiene 4.2 Explain the importance of using personal protective equipment for infection control in healthcare settings 4.3 Explain how clinical waste is disposed of in healthcare science settings

Unit amplification

LO1: **Be able to use protocols and Standard Operating Procedures, (SOPs) in the investigation, treatment, management and diagnosis of disease and disorders**

- *Use protocols and Standard Operating Procedures*

- *Significance of protocols and standard operating procedures, e.g.* protocols and standard operating procedures for the investigation, diagnosis, treatment and management of disease and disorders in own job role

- *Limitations of protocols and SOPs:* lack of flexibility*;* regularity of updating; legal requirements

- *Application of protocols and standard operating procedures to routine tasks in own role*

LO2: **Know the scope of services within healthcare science used to investigate, diagnose, treat and manage human disease and disorders**

- *Range of services provided by healthcare science:* pathology services, physiological investigations, imaging, radiation therapies and treatments, rehabilitation services

LO3 **Know information systems commonly used within healthcare science**

- *Commonly used information systems within healthcare science:* patient database, Laboratory Information Management Systems (LIMS), bioinformatics systems

- *Patient databases:* e.g. keeping accurate records to inform diagnosis, treatment and management of diseases and disorders

- *LIMS:* e.g. operations, sample management, instrument and application integration, electronic data exchange, audit management

- *Bioinformatics systems:* e.g. analysis of biological data

LO4 **Understand key principles and practice of infection prevention across health services**

- *Hand washing*: organisational policies in own job role

- *Examples of precautions:* e.g. use of gloves, nail care, safe disposal of gloves, paper towels, thorough drying of hands after washing

- *Types of personal protective equipment in the healthcare science setting:* e.g. gloves, aprons, lead aprons, thyroid shields

- *Use of different types of personal protective equipment:* e.g. gloves, aprons when dealing with biological samples, lead aprons, thyroid shields when dealing with ionising radiation

- *Company policy regarding disposal of different types of clinical waste*

- *Best practices:* e.g. use of approved separate containers for hazardous and non -hazardous waste, use of colour coding, not storing waste for long periods, accurate recording of disposal

Information for tutors

Delivery

The following delivery guidance is not intended to be prescriptive. Those delivering the programme of learning can adapt the guidance to meet the needs of learners, employers and the specific context

To achieve **learning outcome 1**, learners will gather information as part of their work role. They will need opportunities to examine manuals for relevant Standard Operating Procedures (SOPs) and will benefit, from observing the working practice of more senior personnel within the area. Learners should be supported in maintaining a reflective journal of their experiences of carrying out basic investigations. This would enable reflection and provide a reference source for the presentation of assessed evidence.

Discussion with senior practitioners on flexibility and regulation of SOPs will support understanding.

For **learning outcome 2**, taught sessions and interactive discussions with peers from different areas of healthcare science, will provide an insight for learners, into the scope of the specialisms involved. Input from specialised practitioners will enhance learning and can be followed by internet research to consolidate understanding.

Learners would best gather information for **learning outcome 3** as part of their work role. In addition, supervised internet research, followed by tutor led, interactive discussions will support understanding. Group visits to alternative work areas would enable learners to gain an understanding of how different systems are used in different specialisms.

To achieve **learning outcome 4**, learners need access to relevant policies and procedures within their own work area. This will give them a full understanding of the relevance of infection control within their specialism.

The use of relevant video clips and case studies in the classroom will enhance understanding. Input from specialist practitioners, for example infection prevention and control champions, will also enhance understanding. Access to practical equipment, for example an 'ultra violet light disclosure hand washing kit', can emphasise the need to adhere to relevant procedures.

Access in the work area, to relevant personal professional equipment, (PPE) in general use and that used in less common circumstances, will support understanding.

Suggested resources

Books

Lesk A – *Introduction to Bioinformatics*, *4th Edition* (Oxford University Press, 2014) ISBN 9780199615566

Weston D – *Fundamentals of Infection Prevention and Control: Theory and Practice* (Wiley Blackwell, 2013) ISBN 9781118306659)

Websites

www.bioinformaticsweb.net/applications.html – This link leads to basic information on the uses of bioinformatics

www.globalspec.com – this website gives learners a brief outline of the functions of a Laboratory Information Management System (LIMS) system

www.hand-hygiene.com/wash-and-glow-about.htm – this link leads to information regarding hand washing demonstration kits to be used in the classroom.

www.mlo-online.com/articles/200912/waste-management-for-the-clinical-lab.php – information about waste disposal in medical laboratories and a link to an example of a waste disposal audit.

Other

Bioinformatics (Oxford Journals Science and Mathematics)

International Journal of Bioinformatics Research and Applications (Inderscience Publishers)

Assessment

This unit is internally assessed. To pass the unit the evidence that the learner presents for assessment must demonstrate that they have met the required standard specified in the learning outcomes and assessment criteria and the requirements of the assessment strategy.

To ensure that the assessment tasks and activities enable learners to produce valid, sufficient, authentic and appropriate evidence that meet the assessment criteria, centres should apply the *Unit assessment guidance* provided and the requirements of the assessment strategy given in *Annexe A*. This should be read in conjunction with *Section 8 Assessment.*

Wherever possible, centres should adopt an holistic approach to assessing the units in the qualification. This gives the assessment process greater rigour and minimises repetition, time and the burden of assessment on all parties involved in the process.

Unit assessment guidance

This guidance supports assessors in making decisions about how best to assess each unit and the evidence needed to meet the requirements. Centres can adapt the guidance as appropriate for learners and the particular assessment context.

The centre will devise and mark the assessment for this unit.

Guidance for the assessment of this unit is given below. This should be read in conjunction with *Section 4 Assessment*.

Learners must meet all assessment criteria to pass the unit.

Assessment evidence collected for this unit may include:

● observation

● questioning

● discussion

● reflective reporting and application of learning in the workplace

Evidence for **learning outcome 1** could be presented as a report on the purpose and limitations of protocols and Standard Operating Procedures (SOPs), referring to **at least two** protocols and **at least two** SOPs used within routine tasks in the learner's own work area, (AC1.1).

Learners must present evidence of applying SOPs to routine tasks in their own work area. This should take the form of a written record/journal, together with **two** witness statements from a mentor or supervisor, stating how the learner has demonstrated competence in following procedures and protocols, (AC1.2).

Evidence for **learning outcome 2** could be in the form of a report on the range of services within healthcare science. The report should include **at least one** example from each of the services listed in the unit amplification, (AC2.1).

Evidence for **learning outcome 3** could be in the form of an information pack for peers, describing the different types of information systems included in the unit amplification, and their uses in treating and managing diseases and disorders. Evidence must include **at least one use** for each system described, (AC3.1, 3.2).

Evidence for **learning outcome 4** could be in the form of a presentation (AC4.1) which should include reference to the hand washing policies in the learner's own work role, and **at least four** examples of specific precautions, that should be observed in their own or related work areas.

Learners could produce a set of information sheets explaining the importance of using PPE (AC4.2). Learners must refer to their own organisational policies and the types of PPE relevant to their own work setting and their uses.

To meet AC4.3, learners could report on the safe disposal of clinical waste in healthcare science settings, referring to their own organisational policies and explaining **at least two** examples of best practice.

Unit 5: Working Safely in the Healthcare Science Environment

Unit reference number: R/507/0069

Level: 2

Credit value: 3

Guided learning hours: 20

Unit summary

This unit introduces learners to key requirements for health and safety practice in the healthcare science working environment, including the recognition and control of hazardous substances.

Key legislation, procedures and protocols will be explored. These will then be applied to relevant activities in the learner's workplace. Learners will show that they can work with equipment and materials according to manufacturers' instructions and be aware of lines of communication and responsibilities in relation to health and safety in their own workplace.

Learning outcomes and assessment criteria

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

Learning outcomes	Assessment criteria
1 Know the duties of employers and employees under health and safety legislation	1.1 Outline the purposes of the Health and Safety at Work Act 1974 as they apply to the healthcare science work environment
	1.2 Describe the legal responsibilities of employers to ensure health, safety and welfare in the workplace
	1.3 Describe health and safety regulations which apply to own work environment

Learning outcomes	Assessment criteria
2 Know how to recognise hazardous substances that may cause harm in the workplace	2.1 Describe the different forms of hazardous substances used in the healthcare science environment
	2.2 Identify symbols used for hazardous substances in own workplace
	2.3 Describe the ways in which hazardous substances can cause harm
	2.4 Describe the principles of controlling the risks presented by hazardous substances
3 Understand health and safety procedures for scientific or technical activities	3.1 Explain health and safety operating procedures relevant to given tasks in own job role
	3.2 Explain the appropriate action to be taken in the event of identified workplace hazards and risks
4 Be able to prepare, maintain, and use equipment and materials in accordance with manufacturers' instructions	4.1 Describe the implications of not following protocols when conducting scientific or technical activities
	4.2 Use safe practices in the workplace when preparing, maintaining and using equipment and materials
	4.3 Wear appropriate protective clothing in the workplace
5 Know the lines of communication and responsibilities in relation to health and safety in own department and links with wider organisation	5.1 Identify health and safety representatives in own workplace
	5.2 Describe how to operate identified fire alarm call points
	5.3 Describe the correct use of emergency equipment in own workplace
	5.4 Identify lines of communication and responsibilities in own organisation in relation to health and safety matters
	5.5 State limits of own authority in relation to health and safety matters

Unit amplification

LO1: **Know the duties of employers and employees under health and safety legislation**

- *Legislation:* how this is used to promote the health, safety and security of individuals in the healthcare science workplace

- *Responsibility of employers:* ensuring organisational safety, monitoring workplace practices, risk assessments, minimising risks, keeping relevant records

- *Health and safety regulations that apply to own role:* biological specimen handling; Control of Substances Hazardous to Health (COSHH) Regulations; Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR); radioactivity; fire safety; electrical safety; moving and handling; display screen equipment; incident reporting

LO2: **Know how to recognise hazardous substances that may cause harm in the workplace**

- *Forms of hazardous substances in the healthcare science environment:* flammables (liquid or solid), corrosive material, equipment and tools, toxic/harmful material, biological material, radioactive material, water reactive material, explosive materials

- *Symbols used for hazardous substances*

- *Ways in which substances enter the body*

- *Effects of substances on skin*

- *Effects of substances on eyes/vision*

- *Damage to equipment*

- *Controlling risks of hazardous substances:* storage, use of hazardous materials, safe disposal of used materials, use and storage of hazardous substances in extreme temperatures

LO3: **Understand health and safety procedures for scientific or technical activities**

- *Procedures relevant to healthcare science area:* e.g. use of personal protective equipment, (PPE), monitoring/calibrating equipment, turning off equipment when not in use, reporting incidents/accidents/malfunctions to relevant personnel, safe disposal of sharps, biological materials

- *Workplace hazards:* manual handling, unsafe practice, spillages, workplace emergency, workplace evacuation, PPE

LO4: Be able to prepare, maintain, and use equipment and materials in accordance with manufacturers' instructions

- *Implications of not following protocol:* correct equipment, occurrence of adverse events, personal injury, injury to colleagues, production of invalid results

- *Carry out own work following appropriate health and safety procedures*

- *Appropriate personal protective clothing*

LO5: Know the lines of communication and responsibilities in relation to health and safety in own department and links with wider organisation

- *Relevant representatives in healthcare science area*

- *Correct procedure for fire alarm call points*

- *Appropriate use of emergency equipment within limits of own responsibility*

- *Chain of responsibility within organisation in relation to health and safety matters*

- *Limits to own authority:* own health and safety responsibilities, who to report to if a problem arises that cannot be resolved

Information for tutors

Delivery

The following delivery guidance is not intended to be prescriptive. Those delivering the programme of learning can adapt the guidance to meet the needs of learners, employers and the specific context.

Learning outcome 1 is best delivered as part of the learner's work role. Learners will require access to organisational policies on health and safety, particularly those pertinent to their work role. Internet research followed by interactive discussions with peers will support and enhance understanding. Discussions, related to the application of legislation, regulations and codes of practice with senior work colleagues will consolidate understanding.

Learning outcome 2 will need to be delivered as part of the work role and supported by taught sessions and internet research. Learners will need to gain knowledge of all forms of hazardous substances listed in the unit amplification. It will be important, therefore, that learners have access to information on substances used in other areas of their organisation. Alternatively, peer discussions on other areas of work will provide information, in-line with organisational policies on commercial confidentiality.

Learning outcome 3 would best be delivered as part of work-role training, supported with observation of senior practitioners and discussion of issues with peers and other colleagues. So that learners are able to gain a thorough understanding of relevant issues and factors, access to organisational policies and procedures is essential.

Attendance at staff training days and input from health and safety representatives within the workplace will underpin understanding.

Learning outcome 4 should be delivered in the work environment. Learners should be encouraged to maintain a reflective diary to support the development of skills and build confidence. Observation by a mentor or supervisor will prepare learners for practical assessment. Learners will need access to relevant manufacturers' instructions, for the safe operation of equipment. They will also require support in developing an awareness of the correct use of personal protective equipment, (PPE).

Learning outcome 5 is linked to the learner's role in their area of work. It is essential, therefore, that they have access to work-based information on all relevant areas of health and safety including policies and procedures, emergency equipment in their own work area and operating procedures. They need to be aware of the limits of their own role in relation to the management of health and safety within their work area.

Suggested resources

Books

Furr AK – *CRC Handbook of Laboratory Safety*, *5th Edition* (CRC Press, 2000)
ISBN 9788123901763

HSE Health Service Advisory Committee – *Safe Working and the Prevention of Infection in Clinical Laboratories and Similar Facilities* (HSE Books, 2003)
ISBN 9780717625130

Websites

www.gov.uk/government/news/safe-management-of-healthcare-waste – This link provides access to a PDF document on *'Safe Management of Healthcare Waste'* that could be used as a resource in preparation for class sessions

www.gov.uk/government/uploads/system/uploads/attachment_data/file/192065/HTM_05-01.pdf – this website links to a document by the Department of Health, on fire safety in healthcare premises.

www.hse.gov.uk/biosafety/biologagents.pdf – this website provides advice on dealing with biological spills.

www.hse.gov.uk/biosafety/index.htm – Health and Safety Executive, this website provides guidance on biosafety infections at work

www.sciencedirect.com/science/article/pii/0195670180900390 – this website provides advice on safety in clinical laboratories.

Other

Journal of Healthcare Engineering (Multi-Science Publishing):

http://www.multi-science.co.uk/jhe.htm

Laboratory News (Metropolis International Group Ltd.): http:/www.labnews.co.uk

Assessment

This unit is internally assessed. To pass the unit the evidence that the learner presents for assessment must demonstrate that they have met the required standard specified in the learning outcomes and assessment criteria and the requirements of the assessment strategy.

To ensure that the assessment tasks and activities enable learners to produce valid, sufficient, authentic and appropriate evidence that meet the assessment criteria, centres should apply the *Unit assessment guidance* provided and the requirements of the assessment strategy given in *Annexe A*. This should be read in conjunction with *Section 8 Assessment.*

Wherever possible, centres should adopt an holistic approach to assessing the units in the qualification. This gives the assessment process greater rigour and minimises repetition, time and the burden of assessment on all parties involved in the process.

Unit assessment guidance

This guidance supports assessors in making decisions about how best to assess each unit and the evidence needed to meet the requirements. Centres can adapt the guidance as appropriate for learners and the particular assessment context.

The centre will devise and mark the assessment for this unit.

Guidance for the assessment of this unit is given below. This should be read in conjunction with *Section 4 Assessment.*

Learners must meet all assessment criteria to pass the unit.

Assessment evidence collected for this unit may include:

● observation

● questioning

● discussion

● reflective reporting and application of learning in the workplace.

To achieve **learning outcome 1** learners could produce a health and safety manual for new recruits to their own work area. The manual should outline details of **at least three** health and safety regulations (AC1.1), and describe **at least three** responsibilities of employers, in respect of all factors included in the relevant unit amplification, (AC1.2). The manual should contain specific reference to **at least two** health and safety regulations and their relevance to the learner's own work role. (AC1.3).

For **learning outcome 2** learners could produce and deliver a presentation that demonstrates their understanding of hazardous substances in the work place. Learners must refer to **at least three** examples of substances listed in the unit amplification, (AC2.1). Learners should also give examples of symbols used for all hazardous substances used in their work environment (AC2.2)

Learners could also produce a document on ways in which hazardous substances can cause harm (AC2.3) and the principles of controlling risks. The document must cover **at least three examples** from the unit amplification. (AC 2.4)

To meet **learning outcome 3**, learners could produce an information pack containing sheets, handouts, leaflets and posters that give the reader an understanding of health and safety procedures related to scientific or technical activities in the learner's own area of work. The pack should refer to at least the following: workplace hazards, manual handling, unsafe practice, spillages, workplace emergency and workplace evacuation. (AC3.1 and AC3.2)

To meet **learning outcome 4**, learners could produce a report on the implications of not following protocols when conducting scientific or technical activities.

Learners must also present evidence in the form of a reflective journal and witness statements from supervisors, of following health and safety procedures while carrying out their own work, including wearing appropriate personal protective equipment (PPE) (AC4.2, 4.3). The reflective journal and witness statements must include at least **three** examples each, to cover both assessment criteria.

Learning outcome 5 could be achieved through the production of a report that demonstrates understanding of the required aspects of the relevant lines of communication and responsibilities (AC5.1, 5.2, 5.3, 5.4, 5.5). Evidence must demonstrate links with the learner's own department and with the wider organisation.

12 Further information and useful publications

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

- books, software and online resources for UK schools and colleges: 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.

Further information and publications on the delivery and quality assurance of NVQ/Competence-based qualifications are available on our website: qualifications.pearson.com

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.

13 Professional development and training

Professional development and training

Pearson supports UK and international 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.

Online support: find the answers to your questions by browsing over 100 FAQs on our website or by submitting a query using our Work Based Learning Ask the Expert Service. You can search the database of commonly asked questions relating to all aspects of our qualifications in the work-based learning market. If you are unable to find the information you need, send us your query and our qualification or administrative experts will get back to you. The Ask the Expert service is available on our website at: www.qualifications.pearson.com/

Online forum

Pearson Work Based Learning Communities is an online forum where employers, further education colleges and workplace training providers can seek advice and clarification about any aspect of our qualifications and services, and share knowledge and information with others. The forums are sector specific and cover business administration, customer service, health and social care, hospitality and catering and retail. The online forum is available on our website at: qualifications.pearson.com/en/support.html

14 Contact us

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

Complaints and feedback

We are working hard to give you excellent service. However, if any element of our service falls below your expectations, we want to understand why, so that we can prevent it from happening again. We will do all that we can to put things right.

If you would like to register a complaint with us, please email wblcomplaints@pearson.com.

We will formally acknowledge your complaint within two working days of receipt and provide a full response within seven working days.

Assessment strategy

Assessment Strategy for the
Chemical, Pharmaceutical, Bioscience, Nuclear, Oil and Gas, Petroleum and
Polymer Industries

2003

Approved by UK Co-ordinating Group – October 2003 Re-approved by UK
Co-ordinating Group – January 2005 Re-approved by UK
Co-ordinating Group – January 2007

The Sector Skills Council for science-based industries

Contents

1) Introduction

This Assessment Strategy presents a single overarching strategy for competence-based qualifications within the Cogent sector.

a. The UKCG guidance on assessment strategies requires SSCs to develop strategic guidance on the principles which Awarding Bodies shall follow when designing and implementing N/SVQs in their sectors.

b. With the introduction of the new 'Qualifications and Credit Framework' in England, Wales and Northern Ireland the scope of the Cogent Assessment Strategy has also been extended to include any competence related qualifications, approved within the QCF, with the following purpose:

- To demonstrate that an individual has the necessary skills and/or knowledge to perform a given job role competently

- To demonstrate that an individual has the necessary skills and/or knowledge to perform a specific function(s) or task(s) competently

c. The requirements have been brought together in this single document in order to avoid repetition and they represent a key part of the assessment process.

d. This strategy is supplemented by award-specific assessment requirements which identify appropriate forms of evidence for the particular competence being assessed.

e. This assessment strategy shall apply to all new qualification frameworks and awards submitted after approval by UKCG.

f. Awarding Bodies representing the four nations have all been involved with the development of this assessment strategy and provided supporting letters.

g. Awarding Bodies will ensure that all practices related to assessment of Cogent S/NVQs will be conducted in accordance with the codes of practice and guidelines as set out in QCA's 'NVQ Criteria and Codes of Practice' and SQA Accreditation's 'Approved Awarding Body Criteria (2007)'

h. This strategy is set out in terms of four components, each of which is given below. They are:

- requirements for mandatory use of evidence from workplace performance;

- aspects of the standards for which the use of simulation is to be permitted and design characteristics which those simulations must address;

- definitions of the occupational competence requirements of assessors and verifiers; and

- the recommended approach to external quality control.

2) Mandatory use of evidence from workplace performance

i.   Unless the use of simulation is expressly permitted within the qualification or unit specific evidence requirements, evidence must demonstrate the candidate's competence in a real or realistic environment.

j.   Knowledge and Understanding will be assessed via (pre-set and/or free form) questions, or by inference from performance, which cover three primary types of knowledge:

- Knowledge of facts and procedures

- Understanding of principles, concepts and underpinning procedures

- How to apply principles and procedures in specific contexts

All questions must be asked by the assessor at appropriate moments throughout the assessment process, preferably linked to observed activity and/or review of documentary evidence. The questions asked of, and answers provided by, the candidate must be recorded.

k.   In England and Wales, where the candidate is undertaking an NVQ within the context of an Apprenticeship/Foundation Modern Apprenticeship for which there is no Technical Certificate component the knowledge and understanding requirements must be separately assessed, recorded and evidenced. This must be done through the use of written question and answer evidence which is externally verified by the relevant Awarding Body. Alternative arrangements can be made for those candidates with special needs where appropriate. Examples of these Apprenticeships are L2 Apprenticeships/Foundation Modern Apprenticeship in Radiation Protection, Signmaking and Polymer Processing.

3) Use of Simulation

l.   The qualification or unit specific assessment requirements will define where evidence from simulation is acceptable, and in which contexts. A full summary of these requirements for existing N/SVQs can be found in Appendix A.

m.   The requirements for any new qualifications accredited to the QCF from August 2008 onwards will be added to Appendix B on an incremental basis.

n.   Simulation, where permissible, may be used to provide evidence in two different scenarios: Scenario 1 – (applicable to any competence related qualifications, including N/SVQs) in order to demonstrate particular competences/units that would be difficult or dangerous to demonstrate directly Scenario 2 – (only applicable to NVQs) in order to demonstrate the acquisition of knowledge and skills where the achievement of a competence based qualification is not possible (e.g. as the basis for year 1 of an Advanced/Modern Apprenticeship – England and Wales only). This qualification would be Process Engineering Maintenance L2.

o.   **Scenario 1 -Where simulation is used to demonstrate particular competences/units that would be difficult or dangerous to demonstrate directly (e.g. in dealing with emergencies).**

N.B. This scenario is applicable to any competence related qualifications, including N/SVQs.

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Simulation should be used only where direct evidence of candidate performance cannot be obtained. Under these circumstances simulation may be used for summative assessment. Reasons for the use of simulation should be made clear to and agreed by the external verifier and should include the following details:

- which competence (and standards) the simulation was designed to assess;

- the kind of equipment, facilities and physical environment proposed for the simulation of performance. It is unlikely that the External Verifier will approve a simulation if it does not involve real plant and equipment;

- how the simulated activity relates to the candidate's normal work context in terms of the pressures of time, access to resources and access to information, and the communication media; and

- how the simulation was set up and conducted, preferably supported by physical evidence such as photographs or inspection of a test rig.

  Assessors, internal verifiers and external verifiers should monitor the proportion of evidence generated via simulations to ensure that it is not the primary source of a candidate's claim to competence.

p. Under these circumstances simulations are reserved for aspects of competence illustrated by the following contexts:

- where demonstration of emergency shutdown and related safety procedures would be; **dangerous and/or disruptive** to plant/environment/individuals; **too costly** such as total plant shutdown or dealing with spillage of dangerous substances; where **issues of confidentiality** restrict access to real work opportunities;

- demonstrating specific aspects of the operation which rarely or never occur due to effective QA systems;

- the capacity to integrate disparate knowledge to cope with unforeseen events and to solve problems; or

- aspects of working relationships and communications for which no opportunity has presented for the use of naturally occurring workplace evidence of candidate performance.

q Simulation must enable the individual to demonstrate competence in a real or realistic work environment. In this context this means in specialist centres which replicate the workplace in terms of equipment and environment, reflect normal working situations and use relevant industrial or commercial standards and procedures. Short work placements or non-realistic work environments which do not replicate the pressures and requirements of normal commercial or industrial activities will not be acceptable. The bulk of the candidate's evidence should be drawn from their normal working activity and not consist of artificially contrived opportunities for one-off demonstration of competence. Similarly equipment must be that used in current commercial and industrial contexts. Procedures and standards used should be those which are nationally or internationally recognised or devised by specific companies as standard operating procedure.

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r. Scenario 2 – Where simulation is used to demonstrate the acquisition of knowledge and skills where the achievement of a competence based qualification is not possible. In England and Wales, an apprentice who is registered on a Cogent Advanced Apprenticeship/Modern Apprenticeship may use simulation on the NVQ L2 Process Engineering Maintenance as part of the basic apprenticeship training. For any person completing this qualification that fails to complete the Advanced Apprenticeship/Modern Apprenticeship it will state on their completion certificate that this qualification was assessed in a simulated environment.

The development of the Cogent 'Community Apprenticeship' model has highlighted the need to make NVQ L2 Process Engineering Maintenance available for completion through a college or other training provider 'off-site'. This is to enable the candidate to begin acquiring the skills and knowledge required to work in the Cogent industries prior to undertaking the NVQ level 3 with an employer in the normal way. Under these circumstances simulation may be used, with the prior agreement of the External Verifier, for summative assessment across the whole qualification.

s. Simulation must enable the individual to acquire his/her skills and knowledge in a realistic work environment. In this context this means in specialist centres which replicate the workplace in terms of equipment and environment, it reflects normal working situations and uses relevant industrial or commercial standards and procedures. Where possible providers should attempt to replicate the pressures and requirements of normal commercial or industrial activities. Equipment must be that used in current commercial and industrial contexts. Procedures and standards used should be those which are nationally or internationally recognised or devised by specific companies as standard operating procedure.

t. Circumstances outside of scenarios 1 and 2 above may also be considered suitable for the use of simulation with the agreement of the External Verifier, Awarding Body and Sector Skills Council. Under these circumstances simulation may be used for formative assessment only.

4) Occupational competence of assessor and verifiers

u. Assessors:

- must be competent in the units they are assessing. This is shown through the assessor having achieved the award they are assessing OR providing quality evidence to the external verifier that they are able to make valid judgements of the competence of candidates. This could be done through a combination of a) personal interview, b) review of employment histories and/or c) examination of the assessor's judgement during assessments.

- must have a working knowledge of awards and a full understanding of that part of the award for which they have responsibility.

- should hold or be working towards suitable qualifications for assessment, as defined by the Qualification Regulator(s). Organisations should consult with the relevant awarding organisation regarding approval for exemptions.

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v. Internal verifiers:

- must be either working in the appropriate sector itself OR they must be able to demonstrate they possess practical and up-to-date knowledge of current working practices appropriate to the sector in which they are carrying out verification practices; and

- must be appointed by an approved centre

- must have a working knowledge of the awards they are internally verifying

- should hold or be working towards suitable qualifications for verification, as defined by the Qualification Regulator(s). Organisations should consult with the relevant awarding organisation regarding approval for exemptions.

w. External Verifiers:

- must be familiar with the industry, and have an understanding of the technical processes and terminology used. The Awarding Body, through examination of relevant CV's and references, will confirm this.

- should hold or be working towards suitable qualifications for verification, as defined by the Qualification Regulator(s).

5) External Quality Control

x. The external quality control of assessment is to be ensured, in this highly regulated and safety-critical sector, through the use of competent external verifiers.

y. External quality control will be undertaken by one of two methods to be selected at the choice of the Awarding Body. These are:

- Statistical Monitoring in which the risk rating of centres is determined through the collection of a range data types. Awarding Bodies delivering the awards should provide arrangements for fulfilling these requirements.

    OR

- Enhanced External Verification in which one critical unit (identified by the standards-setting body) is to be sampled at all external verification events. Where there have been no candidates assessed in a centre for this unit, the external verifier will duly record this fact. This enhanced external verification model will cover the evidence assessed by each assessor involved in the assessment of the safety-critical unit over a twelve month period.

Annexe B

Personal, Learning and Thinking Skills mapping

PLTS	Units	1 L2	2 L2	3 L2	4 L2	5 L2
Independent Enquirers						
1 identify questions to answer and problems to resolve		3			3	
2 plan and carry out research, appreciating the consequences of decisions		3			3	
3 explore issues, events or problems from different perspectives		3			3	
4 analyse and evaluate information, judging its relevance and value		3			3	
5 consider the influence of circumstances, beliefs and feelings on decisions and events		3			3	
6 support conclusions, using reasoned arguments and evidence		3			3	
Creative Thinkers						
1 generate ideas and explore possibilities		3			3	
2 ask questions to extend their thinking		3			3	
3 connect their own and others' ideas and experiences in inventive ways		3			3	
4 question their own and others' assumptions		3			3	
5 try out alternatives or new solutions and follow ideas through		3			3	
6 adapt ideas as circumstances change		3			3	
Reflective Learners						
1 assess themselves and others, identifying opportunities and achievements			3	3		
2 set goals with success criteria for their development and work			3	3		
3 review progress, acting on the outcomes			3	3		
4 invite feedback and deal positively with praise, setbacks and criticism			3	3		
5 evaluate experiences and learning to inform future progress			3	3		
6 communicate their learning in relevant ways for different audiences			3	3		

PLTS	Units	1 L2	2 L2	3 L2	4 L2	5 L2
Team Workers						
1 collaborate with others to work towards common goals				3		3
2 reach agreements, managing discussions to achieve results				3		3
3 adapt behaviour to suit different roles and situations, including leadership roles				3		3
4 show fairness and consideration to others				3		3
5 take responsibility, showing confidence in themselves and their contribution				3		3
6 provide constructive support and feedback to others				3		3
Self-Managers						
1 seek out challenges or new responsibilities and show flexibility when priorities change					3	3
2 work towards goals, showing initiative, commitment and perseverance					3	3
3 organise time and resources, prioritising actions					3	3
4 anticipate, take and manage risks					3	3
5 deal with competing pressures, including personal and work-related demands					3	3
6 respond positively to change, seeking advice and support when needed					3	3
7 manage their emotions, and build and maintain relationships					3	3
Effective Participators						
1 discuss issues of concern, seeking resolution where needed				3		3
2 present a persuasive case for action				3		3
3 propose practical ways forward, breaking these down into manageable steps				3		3
4 identify improvements that would benefit others as well as themselves				3		3
5 try to influence others, negotiating and balancing diverse views to reach workable solutions				3		3
6 act as an advocate for views and beliefs that may differ from their own				3		3