Pearson BTEC Level 4 Diploma in Healthcare Science

Specification

Competence-based qualification

Issue 3

About Pearson

We are the world's leading learning company operating in countries all around the world. We provide content, assessment and digital services to learners, educational institutions, employers, governments and other partners globally. We are committed to helping equip learners with the skills they need to enhance their employability prospects and to succeed in the changing world of work. We believe that wherever learning flourishes so do people.

This document is Issue 3. Key changes are summarised on the next page. We will inform centres of any changes to this issue. The latest issue can be found on our website.

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.

Product number: VQ000156

Summary of changes to Pearson Level 4 Diploma in Healthcare Science specification

Please note: this specification contains only mandatory units. Please refer to the qualification page on our website: qualifications.pearson.com

Summary of changes made between previous issue and this issue	Page number
Missing Learning Outcome 4 added to *Unit 4: Health, Safety and Security in the Healthcare Science Environment*	50
Minor amendments to the assessor descriptions in *Annexe B* of the assessment strategy	107

Summary of changes to Pearson Level 4 Diploma in Healthcare Science individual units (available on the website)

Summary of changes made between previous issue and this issue
Unit 104: AC1.5 amended to 1.6 AC1.6 amended to 1.5
Unit 105: AC1.3 amended to AC6.1 and 6.2

Earlier issue(s) show(s) previous changes.

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

Contents

1 Introducing the qualification

What are Pearson competence-based qualifications?

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

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

Please note: 'individuals' refers to those requiring care and support, and may include patients, service users or clients.

Qualification purpose

The Pearson BTEC Level 4 Diploma in Healthcare Science is for learners who are working in the role of Healthcare Science Associate.

The Healthcare Science (HCS) Associate workforce supports the work of HCS Practitioners and Clinical Scientists in performing high-quality, safe diagnostic, therapeutic and monitoring technical and scientific procedures from conception to end of life in job roles, within hospitals, general practice and other settings in the healthcare sector and across all areas of HCS. They perform a wide range of routine technical and scientific procedures, with minimal supervision, within one of the divisions in HCS, following specific protocols and in accordance with health, safety, governance and ethical requirements. The clinical scientific environment determines the context of the HCS Associate work/role.

The Pearson BTEC Level 4 Diploma in Healthcare Science enables learners to:

- develop wider sector-related knowledge to underpin occupational competence in the role of a Healthcare Science Associate. This includes knowledge and understanding of the requirements of the NHS constitution and good scientific practice for person-centred care and support, involving individuals and the public in HCS and in making choices about their care, good mentoring practice, legislation and policies in HCS and quality management
- develop the technical sector-related knowledge to underpin occupational competence in their own role and those of others within a healthcare science team. Learners will be able to gain the underpinning knowledge from the following themes: pathology investigations of disease and disorders, clinical investigations of human functions and systems, imaging investigations and medical physics, and clinical engineering and the benefits of research

- develop a range of technical skills and abilities to support competence in the job role this includes skills in performing equipment management, recognising problems, undertaking appropriate audit/research/innovation activities that support quality improvement, plan/assess the work of the team and promote mental health and wellbeing
- develop a positive attitude to following Standard Operating Procedures (SOPs) and codes of practice, and professional behaviours such as developing practice and performance, working within the limits of own role, respecting the rights of others and working collaboratively and safely, mentoring and the delivery of high-quality service outcomes and continuous improvements
- gain recognition for existing skills and knowledge
- develop appropriate professional attitudes and behaviours that will support personal success in their job role and the long-term success of their organisation
- develop a range of interpersonal and intrapersonal skills to support progression to, and success in, further study and career advancement
- achieve a nationally-recognised Level 4 qualification.

Industry support and recognition

The Pearson BTEC Level 4 Diploma in Healthcare Science was developed through close collaboration with the Healthcare Science Associate Trailblazer employer group, professional bodies, and other awarding organisations.

This qualification is supported by:

- employers: Newcastle upon Tyne Hospitals NHS Trust, Sheffield Teaching Hospitals NHS Foundation Trust, NHS Blood and Transplant, Newcastle Centre, Gloucestershire Hospitals NHS Foundation Trust, The Royal Marsden NHS Foundation Trust, Western Sussex Hospitals NHS Foundation Trust, Public Health Laboratory (Bristol), Sherwood Forest Hospitals NHS Foundation Trust, West Hertfordshire Hospitals NHS Trust, Cardiff and Vale University Health Board, University Hospital of Wales, Doncaster and Bassetlaw Hospitals NHS Foundation Trust, Royal Cornwall Hospitals Trust, East Kent Hospitals University NHS Foundation Trust, Viapath (Serco, Guy's and St Thomas' NHS Foundation Trust, King's College Hospital NHS Foundation Trust)
- professional organisations: Healthcare Science Professional Body Group, Health Education England, Institute of Decontamination Sciences, Academy for Healthcare Science, Association of Health Professions in Ophthalmology, National School of Healthcare Science
- Sector Skills Council: Skills for Health, Cogent.

Funding

Qualifications eligible and funded for post-16 year-olds can be found on the funding Hub.

The apprenticeship funding rules can be found at www.gov.uk.

For further information on the requirements for delivery and assessment of the Apprenticeship Standards, please refer to the apprenticeship funding rules for employers at:
https://www.gov.uk/guidance/apprenticeship-funding-rules-for-employers.

2 Qualification summary and key information

Qualification title	Pearson BTEC Level 4 Diploma in Healthcare Science
Qualification Number (QN)	603/2313/9
Regulation start date	01/09/2017
Operational start date	01/09/2017
Approved age ranges	18+
Total Qualification Time (TQT)	1000
Guided Learning Hours (GLH)	686
Credit value	100
Assessment	Internal assessment (portfolio of evidence).
Grading information	The qualification and units are graded Pass/Fail.
Entry requirements	No prior knowledge, understanding, skills or qualifications are required before learners register for this qualification. However, apprentices without Level 2 English and Maths will need to achieve this prior to taking the end-point assessment. Centres must follow the information in our document, *A guide to recruiting learners onto Pearson qualifications* and *Section 6 Access to qualifications*.

Qualification title	Pearson BTEC Level 4 Diploma in Healthcare Science
Apprenticeship	The Pearson BTEC Level 4 Diploma in Healthcare Science is a mandatory requirement in the Healthcare Science Associate Apprenticeship Standard Learners must achieve this qualification before progressing to the end-point assessment.
Progression	Learners who achieve the Level 4 Diploma in Healthcare Science can progress to achieving the full apprenticeship certification that confirms competency in the job role(s) stated above. Alternatively, learners who have achieved the qualification outside an apprenticeship or who have not met the other apprenticeship requirements could progress to more senior or complex job roles such as Healthcare Science Practitioner or to other qualifications such as a Level 6 Apprenticeship. The content of the qualification will provide learners with a solid basis of knowledge, skills and appropriate behaviours to enable them to progress within the NHS Modernising Scientific Careers Framework and enable them to progress to become Healthcare Science Associates. The content of the qualification will allow learners to progress to healthcare science degrees and allow them to become Healthcare Science Practitioners.

3 Qualification structure

Pearson BTEC Level 4 Diploma in Healthcare Science

The requirements outlined in the table below must be met for Pearson to award the qualification. For a list of healthcare science specialisms go to: http://www.ahcs.ac.uk/about-us/about-healthcare-science/

Minimum number of credits that must be achieved	100
Minimum number of credits that must be achieved at Level 4 or above	51
Number of mandatory credits that must be achieved	37
Number of optional credits that must be achieved	63

Please note that there are some required unit combinations in the structure. Please check the table below and individual units for details.

For full mapping to the apprenticeship standard, it is advised that learners complete optional units 11 and 12.

Unit number	Mandatory units	Level	Credit	Guided learning hours
1	Skills for Lifelong Learning	4	2	16
2	Professional Practice and Person-centred Care	4	5	40
3	Legal and Ethical Context of Practice	4	3	24
4	Health, Safety and Security in the Healthcare Science Environment	4	3	25
5	Technical Scientific Services	4	5	40
6	Effective Communication in Healthcare	4	4	35
7	Audit, Research, Development and Innovation	4	5	20
8	Leadership and Teamwork	4	3	24

Unit number	Mandatory units	Level	Credit	Guided learning hours
9	Teaching, Learning and Assessing Practical Skills	4	4	32
10	Continuing Personal and Professional Development	4	3	20
Unit number	**Optional units**	**Level**	**Credit**	**Guided learning hours**
11	Scientific Basis of Healthcare Science: Clinical Science	4	25	200
12	Scientific Basis of Healthcare Science: Genetics and Genomics and Clinical Bioinformatics	4	10	80
13	Scientific Basis of Healthcare Science: Pharmacology and Therapeutics	4	5	40
14	Scientific Basis of Healthcare Science: Epidemiology and Public Health	4	10	80
15	Scientific Basis of Healthcare Science: Mathematics, Statistics and Physical Sciences	4	10	80
16	Point of Care Testing	4	5	40
17	The Building Blocks of Life	4	20	160
18	The Science Behind the Cure	4	20	160
19	General Laboratory Practice	4	11	88
20	Procedures for Witnessing in the HFEA-licensed Fertility Clinic	3	2	15
21	Check Documentation of Consent in the HFEA-licensed Fertility Clinic	3	3	17
22	Identify and Instruct Individuals Providing Semen Samples in the HFEA-licensed Fertility Clinic	3	3	17

Unit number	Mandatory units	Level	Credit	Guided learning hours
23	Laboratory Practice in the HFEA-licensed Reproductive Science Laboratory	4	3	25
24	Principles and Organisation of Services in the HFEA-licensed Fertility Clinic	4	3	25
25	Reproductive Sciences: Human Body Systems – Biological Basis of Reproductive Systems	4	4	30
26	Prepare Culture Systems for Gametes and Embryos in the HFEA-licensed Reproductive Science Laboratory	4	5	40
27	Prepare Documents for the Transport of Gametes and Embryos to and from Other Fertility Clinics	4	5	40
28	Semen Assessment	4	5	40
29	Clinical Biochemistry in Practice *Learners taking this unit must also take Unit 19: General Laboratory Practice*	4	30	240
30	Haematology in Practice *Learners taking this unit must also take Unit 19: General Laboratory Practice*	4	30	240
31	Clinical Immunology in Practice *Learners taking this unit must also take Unit 19: General Laboratory Practice*	4	30	240
32	Histocompatibility and Immunogenetics in Practice *Learners taking this unit must also take Unit 19: General Laboratory Practice*	4	30	240

Unit number	Mandatory units	Level	Credit	Guided learning hours
33	Transfusion Science – Blood Transfusion in Practice *Learners taking this unit must also take Unit 19: General Laboratory Practice*	4	30	240
34	Transfusion Science – Stem Cell and Tissue Transplantation *Learners taking this unit must also take Unit 19: General Laboratory Practice*	4	30	240
35	Histology in Practice *Learners taking this unit must also take Unit 19: General Laboratory Practice*	4	30	240
36	Cytology in Practice *Learners taking this unit must also take Unit 19: General Laboratory Practice*	4	30	240
37	Microbiology in Practice *Learners taking this unit must also take Unit 19: General Laboratory Practice*	4	30	240
38	Virology in Practice *Learners taking this unit must also take Unit 19: General Laboratory Practice*	4	30	240
39	Principles and Practice of Decontamination Science	4	5	26
40	Preparation of Medical Devices for the Cleaning and Disinfection Process	4	5	26
41	Cleaning and Disinfection of Medical Devices: Manual Processes	4	5	30

Unit number	Mandatory units	Level	Credit	Guided learning hours
42	Cleaning and Disinfection of Medical Devices: Automated Processes	4	5	40
43	Inspection, Assembly, Packaging of Medical Devices in a Controlled Environment	4	10	76
44	Terminal Processing including Sterilisation and High-Level Disinfection	4	5	36
45	Testing, Maintenance and Breakdown Management of Decontamination Equipment	4	5	40
46	Principles and Practice of Flexible Endoscope Decontamination	4	6	50
47	The Role of the Genetic Counsellor	4	5	41
48	Genetics and Genomics in Practice *Learners taking this unit must also take Unit 19: General Laboratory Practice*	4	30	240
49	Scientific Basis of Cardiovascular, Respiratory and Sleep Science: Cardiac Embryology, Anatomy and Physiology	4	15	120
50	Scientific Basis of Cardiovascular, Respiratory and Sleep Science: Anatomy, Histology and Physiology of the Respiratory System	4	15	120
51	Scientific Basis of Cardiovascular, Respiratory and Sleep Science: Scientific Basis of Respiratory Disorders of Sleep	4	10	80
52	Principles of Ultrasound	4	3	24
53	Recognising ECG Abnormalities in Adults	4	10	80
54	Ambulatory ECG Monitoring	4	20	160

Unit number	Mandatory units	Level	Credit	Guided learning hours
55	Ambulatory Blood Pressure Monitoring	4	15	120
56	Assist in Cardiac Stress Testing *Learners taking this unit must also complete Unit 53: Recognising ECG Abnormalities in Adults*	4	6	48
57	Introduction to Congenital Heart Disease	4	4	25
58	Recognising ECG Abnormalities in Children	4	10	80
59	Spirometry and Bronchodilator Response in Adults	4	10	80
60	Measurement of Single Breath Gas Transfer	4	15	120
61	Sleep Diagnostics	3	10	90
62	Spirometry, Static Lung Volumes and Bronchodilator Response in Children	4	15	120
63	Scientific Basis of Neurosensory Sciences: Applied Physics and Measurement	4	15	120
64	Scientific Basis of Neurosensory Sciences: Applied Anatomy, Physiology and Pathophysiology: The Nervous System	4	10	80
65	Scientific Basis of Neurosensory Sciences: Applied Anatomy, Physiology and Pathophysiology: The Ear	4	5	40
66	Adult Hearing Screening and Assessment	4	25	200
67	Hearing Aid Repair and Maintenance	4	15	120
68	Assisting with Electroencephalography	4	15	120

Unit number	Mandatory units	Level	Credit	Guided learning hours
69	Performing Machine Function Tests	4	7	58
70	Assist in the Recording of Visual Evoked Potentials	4	6	52
71	Assist in the Recording of Visual Electrophysiological Investigations	4	6	52
72	Assist during Nerve Conduction Studies and Electromyography	4	6	52
73	Ophthalmic and Vision Science: Applied Microbiology	4	6	52
74	Ophthalmic Pharmacology	4	6	48
75	Instil Eye Medication for Purpose of Investigation or Treatment	4	5	40
76	Anatomy, Physiology and Pathophysiology of the Visual System	4	6	48
77	Imaging the Posterior Segment of the Eye	4	6	48
78	Measure Visual Acuity	3	3	17
79	Visual Field Assessment	3	5	40
80	Measure Optical Prescriptions and Refractive Error	3	5	42
81	Introduction to Gastrointestinal Physiology	4	5	42
82	Performing a Breath Test for Carbohydrate Malabsorption *Learners taking this unit must also take Unit 81: Introduction to Gastrointestinal Physiology*	4	8	64

Unit number	Mandatory units	Level	Credit	Guided learning hours
83	Performing Percutaneous Tibial Nerve Stimulation (PTNS) in Patients with Faecal and Urinary Incontinence Overactive Bladder (OAB) *Learners taking this unit must also take Unit 81: Introduction to Gastrointestinal Physiology*	4	12	96
84	24 Hour Upper Gastrointestinal Physiology Studies: Post-recording Management Studies *Learners taking this unit must also take Unit 81: Introduction to Gastrointestinal Physiology*	4	10	80
85	Assist in Post Sacral Nerve Stimulation Implantation Follow-up Clinics *Learners taking this unit must also take Unit 81: Introduction to Gastrointestinal Physiology*	4	6	52
86	Preparing Equipment for Ambulatory 24 Hour Monitoring, including pH and Combined pH/Impedance Studies *Learners taking this unit must also take Unit 81: Introduction to Gastrointestinal Physiology*	4	6	52
87	Preparing Lower GI Equipment: High Resolution Anorectal Manometry *Learners taking this unit must also take Unit 81: Introduction to Gastrointestinal Physiology*	4	6	46

Unit number	Mandatory units	Level	Credit	Guided learning hours
88	Preparing Lower GI Equipment: Endoanal Ultrasound *Learners taking this unit must also take Unit 81: Introduction to Gastrointestinal Physiology*	4	6	46
89	The Urinary System	4	6	48
90	Performing Urine Dip Stick Analysis	4	3	20
91	Ultrasound Measurement of Post-Void Residual Urine	4	12	96
92	Assisting with Standard Urodynamic Studies	4	10	80
93	Assisting with Flowmetry Studies	4	10	80
94	Introduction to Autonomic Science	4	8	64
95	Assist in Performing Tilt Testing	4	6	48
96	Withdrawal of Blood from an Indwelling Peripheral Cannula	4	3	15
97	Assist with the Assessment of Plasma Catecholamine and Biochemical Levels	4	7	56
98	Assist in Performing Situational Provocation Testing	4	7	56
99	Peripheral Intravenous Cannulation as Part of Autonomic Testing	5	5	40
100	Introduction to Vascular Science	4	3	20
101	Measuring Ankle Brachial Pressure Index	3	2	14
102	Measurement of Post-Exercise Ankle Brachial Pressure Index	4	6	48
103	Scientific Basis of Physical Sciences: Mathematics, Statistics and Informatics	4	10	80
104	Scientific Basis of Engineering: Electrical and Basic Electronics	4	15	120

Unit number	Mandatory units	Level	Credit	Guided learning hours
105	Scientific Basis of Engineering: Basic Mechanics	4	15	120
106	Scientific Basis of Medical Physics	4	30	240
107	Clinical Engineering Workshop Skills	4	4	32
108	The Medical Equipment Lifecycle	4	6	48
109	Acceptance Testing of New Medical Equipment	4	6	48
110	Planned Preventive Maintenance	4	4	32
111	Diagnosing and Rectifying Equipment Faults	4	4	32
112	Decommissioning and Disposal of Medical Equipment	4	6	48
113	Medical Engineering in Practice	4	15	120
114	Rehabilitation Engineering in Practice	4	15	120
115	Renal Technology in Practice	4	15	120
116	Ionising Radiation Engineering in Practice	4	15	120
117	Working Practices in Physical Sciences	4	5	40
118	Radiotherapy Physics in Practice	4	20	160
119	Nuclear Medicine in Practice	4	20	160
120	Radiation Physics in Practice	4	20	160
121	Introduction to Data Science and Data Management in Healthcare	4	10	80
122	Introduction to Clinical Bioinformatics (Genomics)	4	10	80
123	Introduction to UNIX	4	7	22
124	Safe Use of Information Communication Technology within the Clinical Environment	4	10	80
125	Informatics for Physical Sciences	4	9	76

Unit number	Mandatory units	Level	Credit	Guided learning hours
126	Technical Support for Computerised Medical Devices	4	10	80
127	Project Management	4	5	40
128	Clinical Bioinformatics in Practice (Cancer Genomics)	4	20	160
129	Clinical Bioinformatics in Practice (Infectious Diseases)	4	20	160
130	Clinical Bioinformatics in Practice (Rare Diseases)	4	20	160
131	Measurement of Toe Pressure by Photoplethysmography (PPG) *Learners taking this unit must also take Unit 102: Measurement of Post-Exercise Ankle Brachial Pressure Index*	4	10	80
132	Measurement of Transcutaneous Oxygen (TCPO2) *Learners taking this unit must also complete Unit 102: Measurement of Post-Exercise Ankle Brachial Pressure Index and Unit 131: Measurement of Toe Pressure by Photoplethysmography (PPG)*	4	10	80
133	Measuring Peripheral Oxygen Saturation	4	10	80
134	Performing Routine Electrocardiography in Adults	3	3	26
135	Sleep Therapy *Learners taking this unit must also completed Unit 61: Sleep Diagnostics*	4	10	80
136	Measurement of Static Lung Volumes in Adults	4	12	100

4 Assessment requirements

The units in this qualification are all internally assessed.

Assessment strategy

The assessment strategy for this qualification is included in *Annexe B*. It sets out the overarching assessment requirements and the framework for assessing the units to ensure that the qualification remains valid and reliable. It has been developed collaboratively with the National School of Healthcare Science.

Language of assessment

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

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

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

Internal assessment

The units in 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, learners must:

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

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

Presenting evidence

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

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

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

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

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

Assessment of knowledge and understanding

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

Assessor requirements

Centres must ensure:

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

5 Centre recognition and approval

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

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

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

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.

Centres offering mandatory qualifications for Apprenticeship Standards must be listed on the Education and Skills Funding Agency's Register of Training Organisations and have a contract to deliver them.

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

Approvals agreement

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

Centre resource requirements

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

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

6 Access to qualifications

Access to qualifications for learners with disabilities or specific needs

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

We are committed to making sure that:

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

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

Centres must deliver the qualification in accordance with current equality legislation. For full details of the Equality Act 2010, please visit www.legislation.gov.uk.

Reasonable adjustable and special consideration

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

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

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

7 Recognising prior learning and achievement

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

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

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

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

8 Quality assurance of centres

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

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

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

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

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

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

- *Pearson centre guide to quality assurance – NVQs/SVQs and competence-based qualifications*
- *Pearson delivery guidance and quality assurance requirements – NVQs/SVQs and competence-based qualifications.*

9 Units

This section of the specification contains the mandatory units that form the assessment for the qualification. For all optional units, please refer to the qualification page on our website.

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

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

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

Unit 1: Skills for Life-long Learning

Level: 4

Unit type: Mandatory

Credit value: 2

Guided learning hours: 16

Unit summary

In this unit, you will develop the study skills that are needed for successful study and to support lifelong learning. The unit will support you to identify and analyse your learning abilities and requirements and develop your study plan.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the assessment strategy in *Annexe B.*

Additional information

AC1.1 includes:

- self-motivation
- self-direction
- self-discipline
- critical thinking
- accountability
- problem solving
- taking responsibility for their own learning
- managing own time
- setting own goals.

AC1.2 includes:

- online databases
- scientific papers.

AC1.3 includes:

- essays
- reports
- presentations in meetings and to groups
- taking effective notes.

AC1.4 includes:

- presenting information using numbers and charts.

AC2.2 includes:

- quoting the work or ideas of others without acknowledgement
- inadequate referencing, including inaccurate formatting
- taking information from electronic or other sources without acknowledgement
- paraphrasing, i.e., altering some words or order with acknowledgement
- collusion, i.e., collaborating with others without acknowledging own contribution
- failure to acknowledge assistance
- use of material written by professional agencies or other persons
- self-plagiarism, i.e., submitting own work previously used for a qualification or not citing own earlier work
- false citation i.e., cites sources not directly consulted.

Sources

www.ox.ac.uk/students/academic/guidance/skills/plagiarism?wssl=1

www.princeton.edu/pr/pub/integrity/pages/misreprestation/

AC3.1 includes:

- footnote style
- numbered style
- author-date style.

AC4.5 includes:

- colleagues and trusted individuals
- networks
- agencies that support learners, e.g., within an academic institution or own workplace.

Learning outcomes and assessment criteria

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

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to demonstrate the qualities and abilities required of an independent learner	1.1	Discuss the qualities required of an independent learner			
		1.2	Evaluate information from a variety of sources			
		1.3	Incorporate information into study and working practice			
		1.4	Present work in a range of formats			
		1.5	Interpret information using numbers and charts			
		1.6	Use information and communication technology (ICT) effectively in study and working practice			
		1.7	Explain own approach to solving problems			
		1.8	Explain the importance of critical reflection to support personal development			
		1.9	Explain the need and requirements for Continuing Professional Development			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Understand plagiarism and the importance and consequences of plagiarism	2.1	Explain the term plagiarism and the different forms plagiarism can take			
		2.2	Explain the consequences of plagiarism in the context of academic work, work-based assessment, and Good Scientific Practice			
		2.3	Discuss the use and abuse of plagiarism software			
3	Be able to correctly reference information sources	3.1	Explain the different methods for referencing information sources			
		3.2	Demonstrate the ability to reference information sources			
4	Be able to maintain own health and wellbeing	4.1	Explain the importance of maintaining own health and wellbeing			
		4.2	Explain measures taken to maintain own health			
		4.3	Discuss obstacles to own development as an effective learner and practitioner			
		4.4	Undertake measures to overcome potential obstacles			
		4.5	Explain the support mechanisms that are available to learners			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 2: Professional Practice and Person-centred Care

Level: 4

Unit type: Mandatory

Credit value: 5

Guided learning hours: 40

Unit summary

All individuals are entitled to a good standard of professional practice and probity from the healthcare science workforce, including the observance of professional codes of conduct and ethics. In this unit, you will develop an understanding of and consistently apply the principles of good scientific practice[1] (which sets out the principles, values and standards of behaviour and practice for this workforce). You should also be clear about how these principles apply to the role of a Healthcare Science Associate. The unit consolidates and builds on learning from the Pearson BTEC Level 2 Diploma in Healthcare Science.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the assessment strategy in *Annexe B*.

Additional information

For this unit, learners can refer to The Academy for Healthcare Science's (AHCS) Good Scientific Practice (GSP). This is at the core of professional Healthcare Science practice across the entirety of the Healthcare Science workforce and underpins the knowledge, skills and behaviours required for HCSA apprenticeships.

AC1.1 includes:

- the Health Education England five key workforce characteristics
- the NHS Constitution

[1] The Academy for Healthcare Science: Good Scientific Practice: www.ahcs.ac.uk/wordpress/wp-content/uploads/2013/09/AHCS-Good-Scientific-Practice.pdf

- NHS values, including compassion, transparency, candour, openness, and leadership.

AC2.1 includes:

- structure of healthcare science into four divisions
- specialisms within each division
- the healthcare science career framework and requirements for progression
- education and training programmes
- leadership of the healthcare science profession (e.g., the role of the chief scientific officer)
- the role of the National School of Healthcare Science
- the Modernising Scientific Careers programme
- contribution of the healthcare science workforce to health and healthcare services.

AC3.3 includes:

- how healthcare science services can work in partnership with individualss and service users to ensure the views of individuals are central to delivering, developing and maintaining high-quality, safe services
- the importance of supporting individuals and the public to promote and manage their own health.

AC3.4 includes:

- how individuals can and do contribute to healthcare science education in the academic and work-based setting.

AC3.8:

- should be assessed as informed consent applies to clinical care, research, audit and teaching
- should include limits of consent.

AC4.1 includes:

- providing all relevant information related to tests, investigations, and treatment
- limits of confidentiality
- the importance of introducing self and explaining own role to every individual
- treating every person with compassion, dignity and respect, and maintain the confidentiality of the individual and their information
- upholding the rights and autonomy of every individual
- explaining how to support individuals to manage their own care as appropriate
- developing partnerships with individuals/carers/families

- explaining the rights of individual with regard to giving informed consent for treatment when required.

AC5.1 includes:

- role of the Academy for Healthcare Science
- role of the Health and Care Professions Council.

AC5.2 includes:

- procedures to follow if cautioned, charged with a criminal offence, suspended, or have restrictions placed on personal scientific, clinical or professional practice anywhere in the world
- the need to work within own agreed scope of practice and the limits of own personal competence
- own role in the diagnostic and therapeutic process and in maintaining health and wellbeing
- seeking advice or refer to another professional appropriately
- exercising own professional duty of care
- exercising professional judgement and practising within the legal and ethical boundaries of the role of a Healthcare Science Associate
- the need, where appropriate, to hold indemnity insurance
- the importance of probity and honesty in all aspects of own professional practice
- the importance of personal health and wellbeing to ensure personal performance and judgement is not affected by their own health.

Learning outcome 8 includes:

- how mental health conditions may influence a person's needs in relation to the care that they may require
- how positive attitudes towards those with mental health conditions, dementia or learning disabilities will improve the care and support they receive
- adaptations to own practice to support people with mental health conditions, including learning disabilities
- the meaning of mental capacity in relation to how care is provided.

AC8.7 includes:

- emotional literacy
- resilience.

Learning outcomes and assessment criteria

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

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Understand the current structure and function of health and social care services in the UK	1.1	Describe the current structure and function of health and social care services in the UK			
		1.2	Discuss current national NHS policies and practice			
		1.3	Explain how own department implements a national policy			
		1.4	Assess the purpose of the NHS Constitution			
		1.5	Explain how the principles and core values of the NHS Constitution are embedded within own department			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Understand the structure of the healthcare science workforce and the role of the healthcare science associate	2.1	Explain the structure of the healthcare science workforce			
		2.2	Explain the role of the healthcare science associate, including their role within the multi-disciplinary team			
		2.3	Explain how the healthcare science associate contributes to the delivery of safe, quality assured high-quality healthcare			
		2.4	Explain how own role contributes to the delivery of safe, quality-assured healthcare			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Understand the importance of patient-centred healthcare	3.1	Explain the importance of placing the patient at the centre of care			
		3.2	Explain the partnership between the patient and healthcare professional and the boundaries of that partnership			
		3.3	Discuss how patient-centred care translates into: • own organisation • own area of work • own practice.			
		3.4	Explain how the voice of patients and the public is embedded in all aspects of healthcare and healthcare science			
		3.5	Discuss the role of patient support groups in healthcare and healthcare science			
		3.6	Discuss the role of services/bodies supporting patients, e.g., Patient Advice and Liaison Service (PALS), Healthwatch			
		3.7	Explain the need for openness and transparency in the management and delivery of healthcare			
		3.8	Explain how the legal framework for informed consent applies to clinical care, research, audit, and teaching			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Be able to place the patient at the centre of care at all times	4.1	Demonstrate patient-centred care in own working practice			
		4.2	Explain the key factors influencing the dignity, rights, privacy, and confidentiality of patients/colleagues			
		4.3	Evaluate how critical reflection helps maintain and support the quality and safety of patient care			
5	Understand the requirements for safe practice as a healthcare science associate	5.1	Explain the regulatory framework for the healthcare science workforce			
		5.2	Explain how the principles and values set out in Good Scientific Practice apply to own practice			
		5.3	Explain the importance of standards of proficiency in the field of healthcare science			
		5.4	Discuss why high levels of probity are required for healthcare science associates			
		5.5	Explain what support is available when professionalism or ethics are compromised			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
6	Be able to practice as a healthcare science associate safely and effectively within own scope of practice	6.1	Work within the agreed scope of practice for own role lawfully, safely, and effectively			
		6.2	Engage in evidence-based practice			
		6.3	Make professional judgements drawing on appropriate skills and knowledge			
7	Be able to keep up to date with developments in healthcare and healthcare science	7.1	Discuss recent developments in healthcare and healthcare science			
		7.2	Discuss the potential impact of innovative scientific and technical development in each of the four divisions of healthcare science			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
8	Be able to promote mental health and well-being	8.1	Explain the principles underpinning the promotion of mental health and wellbeing			
		8.2	Define the terms 'mental well-being', 'mental health' and 'mental ill health'			
		8.3	Know the prevalence of individuals who may experience mental health problems in the UK			
		8.4	Discuss the importance of promoting positive mental health			
		8.5	Discuss the factors that promote and protect mental health and wellbeing			
		8.6	Explain the needs and experiences of people with mental health conditions, dementia or learning disabilities in own area of work			
		8.7	Describe the key factors in protecting and supporting good mental health			
		8.8	Demonstrate the promotion of mental health and wellbeing in own setting			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 3: Legal and Ethical Context of Practice

Level: 4

Unit type: Mandatory

Credit value: 3

Guided learning hours: 24

Unit summary

The healthcare science workforce is committed to promoting the welfare and wellbeing of the individual over and above any personal considerations. In this unit, you will develop an understanding of the legal and ethical boundaries of your practice and when and how to seek advice. This unit includes some of the core knowledge and skills required to meet the Level 4 Apprenticeship Standard.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the assessment strategy in *Annexe B*.

Additional information

AC1.3 includes:

The principles, guidance, and law with respect to:

- medical ethics
- people's right to privacy and confidentiality, including after they have died
- informed consent and how to gain informed consent
- the limits of informed consent
- equality and diversity
- safeguarding
- the use of chaperones.

AC2.1 includes:

- the need to maintain a complete record.

AC2.4 includes:

- safeguarding, if involved in direct patient care.

AC3.2 includes:

- the need to take account of individual physical, psychological, religious and cultural needs when delivering healthcare.

Learning outcomes and assessment criteria

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

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Understand the ethical, legal and governance requirements arising from working at the level of a healthcare science associate	1.1	Explain how Good Scientific Practice sets the principles and values for the healthcare science workforce			
		1.2	Discuss the ethical, legal and governance requirements arising from working at the level of healthcare science associate			
		1.3	Explain own role and career within healthcare science			
2	Be able to work in accordance with the information governance legal framework	2.1	Explain the principles, guidance, and law with respect to information governance			
		2.2	Discuss the safe and effective use of health and social care information			
		2.3	Explain when, and how, to share information and advice between peers in accordance with current legislation and policy			
		2.4	Demonstrate the ability to take responsibility for the care you provide and its impact on patients			
		2.5	Maintain accurate records in accordance with applicable legislation, protocols, and guidelines			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Understand equality and diversity legislation	3.1	Explain current equality and diversity legislation and policies and local ways of working			
		3.2	Explain the impact of culture, equality, and diversity on practice and what this means for own role			
		3.3	Describe the social model of disability and how it underpins positive attitudes towards disability and involving people in their own care			
		3.4	Analyse how stereotyping can increase stigma and negative attitudes towards people with disabilities and those experiencing mental health problems			
4	Understand how to practice in a non-discriminatory manner in accordance with the Equality Act 2010	4.1	Explain the consequences of not meeting the requirements of the Equality Act 2010			
		4.2	Explain the need to take account of individual physical, psychological, religious and cultural needs when delivering healthcare			
		4.3	Explain how you address a patient, carer or service user's needs in own practice			
		4.4	Explain the need to respect and uphold the rights, dignity, values and autonomy of patients			
		4.5	Explain the need to address issues of inequality of service provision for all communities			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 4: Health, Safety and Security in the Healthcare Science Environment

Level: 4

Unit type: Mandatory

Credit value: 3

Guided learning hours: 25

Unit summary

In this unit, you will develop the knowledge and skills needed to establish and consistently maintain a safe and secure healthcare science environment, drawing on the knowledge, skills, attitudes and behaviours required for safe and effective practice. This unit includes some of the core knowledge and skills required to meet the Level 4 Apprenticeship Standard.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the assessment strategy in *Annexe B*.

Additional information

AC1.1. includes:

- the role of national organisations, e.g., NHS England
- how effective communication underpins high-quality and safe patient services/patient care, including shared decision making
- how current health and safety legislation and regulations impact on the healthcare science work environment
- how duty of care contributes to safe practice
- why it is important that the healthcare science workforce takes reasonable care of health and safety at work for themselves, members of their team and others.

AC1.3 includes:

- health and safety legislation
- departmental guidelines
- organisational regulations.

AC1.5 includes:

- requirements of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013.

AC4.1 includes:

- the individual
- healthcare staff
- patients
- the public.

AC4.2 includes:

- categorisation of near misses and clinical incidents
- analysis of near misses and clinical incidents
- definition of terms 'never events' and serious untoward incidents
- strategies to reduce 'never events' and serious untoward incidents in own organisation.

Learning outcomes and assessment criteria

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

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to maintain a safe, secure and healthy working environment, working within regulations, legislation and codes of practice	1.1	Discuss the wider context of safety in the NHS, including how the culture of an organisation influences safety			
		1.2	Apply current regulations with respect to service user safety and safe systems within own area of work			
		1.3	Know the role of the Health and Safety Executive in patient and service user incident investigation			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Be able to use equipment safely in the healthcare science work environment	2.1	Explain the regulations and current procedures governing the use of equipment found in own work setting			
		2.2	Assess the risks and implications of using defective equipment in own area of practice			
		2.3	Demonstrate use of relevant equipment within manufacturers' guidelines and relevant protocols and procedures			
		2.4	Take remedial action for common equipment faults in line with own organisation's policy			
		2.5	Select appropriate personal protective equipment and use it correctly			
3	Be able to control infection risks in accordance with departmental protocols	3.1	Explain organisational guidelines and protocols for hygiene and infection control			
		3.2	Apply own organisation's protocols for hygiene and infection control in own area of practice			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Understand the need to maintain a safe, secure and healthy working environment	4.1	Explain the importance of health, safety and security in own area of work			
		4.2	Explain the actions that may be taken to manage risks and improve patient safety in healthcare settings			
		4.3	Explain the critical incident reporting process in own area of practice			
		4.4	Discuss the importance of promoting a no-blame culture			
		4.5	Explain approaches to procedures for identifying and reporting critical incidents in own organisation			
		4.6	Explain procedure for receiving and responding to complaints in own organisation			
		4.7	Identify two recent critical incidents and analyse the incident, including cause and agreed actions			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 5: Technical Scientific Services

Level: 4

Unit type: Mandatory

Credit value: 5

Guided learning hours: 40

Unit summary

In this unit, you will develop the knowledge and skills needed to undertake key technical and scientific tasks aligned to the Level 4 Apprenticeship Standard, including quality.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the assessment strategy in *Annexe B*.

Additional information

AC2.5 includes:

- Standard Operating Procedures
- advice from senior colleagues.

Learning outcome 4 includes:

- preventative maintenance
- fault finding
- calibration.

AC4.1 includes:

- specification
- procurement
- commissioning
- preventative maintenance
- fault finding and repair
- calibration
- safety testing and decommissioning.

AC4.3 includes:

- adherence to appropriate infection prevention control techniques.

AC4.4 includes:

- preparation
- performance
- equipment management skills, which could include:
  - preventative maintenance or
  - fault finding or
  - calibration
- record keeping
- reporting procedures
- problem solving.

AC5.3 includes:

- Department of Health, Central Alerting System, Medical Device Alerts.

AC7.3 includes:

- seeking advice when required
- recording and reporting the outcome of risk assessments.

Learning outcomes and assessment criteria

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

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Understand the range of technical scientific services provided within own working context	1.1	Explain how the technical scientific services contribute to individual patient care and patient care pathways			
		1.2	Explain the links to services available in other healthcare science specialisms that may be involved in ongoing patient care			
		1.3	Identify the appropriate technical investigations for relevant clinical conditions			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Be able to work within protocols and procedures in patient investigation, treatment or management	2.1	Explain the development of protocols and procedures in own job role			
		2.2	Assess the importance of protocols and procedures for the services provided within own working context			
		2.3	Apply own organisation's protocols and procedures within own work area			
		2.4	Undertake a range of activities with respect to healthcare science technical data, including: • analysis • interpretation • recording • presenting			
		2.5	Demonstrate the ability to make reasoned decisions to initiate/continue/modify or cease using techniques/procedures			
		2.6	Identify and explain approaches to effective problem solving			
		2.7	Recognise problems and seek technical solutions to them			
		2.8	Critically evaluate the evidence base that underpins own technical practice			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Be able to participate in drafting Standard Operating Procedures (SOPs)	3.1	Explain the purpose of Standard Operating Procedures			
		3.2	Explain the requirements for drafting Standard Operating Procedures			
		3.3	Participate in drafting Standard Operating Procedures in own area of work			
4	Be able to perform a range of equipment management skills	4.1	Discuss each stage of the equipment management life cycle and its implementation in own area of work			
		4.2	Explain the importance of control of infection and decontamination within the equipment management life cycle			
		4.3	Comply with local decontamination procedures in own area of work			
		4.4	Perform a range of equipment management skills			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
5	Understand the terminology and process that underpins a safe, quality-assured healthcare science service	5.1	Explain the terms: • quality management • quality control • quality assurance • quality improvement • quality methodologies • quality processes and procedures			
		5.2	Explain the principles and practice of quality control, external quality assessment and quality management in own work area			
		5.3	Explain the processes for the distribution of documentation			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
6	Be able to apply and maintain quality standards to assure the validity of routine scientific and technical investigations	6.1	Apply and maintain quality standards to assure the validity of routine scientific and technical investigations			
		6.2	Perform required quality control, assessment, and management techniques in own area of work			
		6.3	Explain the common causes of error in own area of practice			
		6.4	Participate in quality-assurance programmes			
		6.5	Define the terms clinical governance and clinical effectiveness			
		6.6	Discuss how clinical governance contributes to the quality of healthcare services			
7	Be able to perform risk assessments	7.1	Explain the approach to risk management in own organisation and department			
		7.2	Discuss own role and responsibilities for risk assessment			
		7.3	Perform risk assessments in accordance with the standard operating procedure			
		7.4	Monitor the effectiveness of the action plan			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 6: Effective Communication in Healthcare

Level: 4

Unit type: Mandatory

Credit value: 4

Guided learning hours: 35

Unit summary

Effective communication skills are fundamental to healthcare and healthcare science. In this unit, you will develop the knowledge and skills needed to communicate effectively with people across a range of situations in the workplace. This unit includes some of the core knowledge and skills required to meet the Level 4 Apprenticeship Standard.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the assessment strategy in *Annexe B*.

Additional information

AC1.4 includes:

- the importance of observing and being receptive to an individual's reactions when communicating with them.

AC1.5 includes:

- use of interpreters.

AC2.2 includes:

- the adjustments needed for individuals/carers who do not have English as a first language
- the adjustments needed to communicate with people with sensory and/or cognitive impairments.

AC3.1 includes[2]:

- verbal:
  - tone
  - volume
  - use of scientific language appropriate to the audience
- non-verbal:
  - position/proximity
  - eye contact
  - body language
  - touch
  - signs
  - symbols and pictures
- writing
- objects of reference
- human and technical aids.

AC3.2 includes:

- face-to-face
- by telephone or text
- by email, internet or social networks
- by written reports or letters
- communication in workplace and academic setting
- developing skills in listening, observing and using feedback.

AC3.4 includes:

- social media[3] and networking sites.

AC3.5 includes:

- providing individuals with the information they want or need to know in a way they can understand.

---

[2] Source: The Care Certificate Standards adjusted to Level 4 and the healthcare science associate role

[3] Social media describes web-based applications that allow people to create and exchange content. In this guidance, we use the term to include blogs and microblogs (such as Twitter®), internet forums, content communities (such as ®, flickr™, YouTube™), and social networking sites (such as Facebook®, LinkedIn®).

AC4.1 includes:

- feedback in the context of:
  - personal development
  - appraisal
  - healthcare services.

AC5.2 could include:

- audit findings
- teaching
- job interview
- research findings.

AC5.3 includes:

- different technological options for oral presentation.

AC5.5 could include:

- presentation software
- interactive whiteboards
- tablets
- online collaboration tools, such as those in Google™Apps

AC6.1 includes:

- selecting the technology appropriate to the subject and audience.

AC7.3 includes:

- drawing on personal experience, where possible.

Learning outcomes and assessment criteria

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

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Understand the principles that underpin effective communication in a healthcare science and academic setting	1.1	Analyse the principles that underpin effective verbal and written communication within own role			
		1.2	Explain the meaning and importance of non-verbal communication and how this can support effective communication			
		1.3	Evaluate the barriers to effective communication and ways to reduce barriers to effective communication			
		1.4	Explain how to check whether information or advice has been understood			
		1.5	Explain where to find information and support or services to help with effective communication			
		1.6	Discuss how effective communication can promote patient-centred care and improve safety and quality of the patient experience			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Understand how to meet the communication and language needs, wishes and preferences of individuals	2.1	Explain how to establish an individual's communication and language needs, wishes and preferences			
		2.2	Discuss a range of communication methods and styles that could help meet an individual's communication needs, wishes and preferences			
3	Be able to use appropriate verbal and non-verbal communication in own role	3.1	Explain the importance of active listening, observation and the use of appropriate language and feedback			
		3.2	Communicate effectively with patients and/or colleagues, adapting communication methods as appropriate to the situation			
		3.3	Develop skills in listening, observing and using feedback in own area of work			
		3.4	Use all forms of spoken, written and digital communication responsibly when communicating with patients and/or colleagues			
		3.5	Ensure that arrangements are made, wherever possible, to meet patients' and/or colleagues' language and communication needs			
		3.6	Explain how patient leaflets and other appropriate media methods can be used to engage with patients, donors and carers and the public			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Be able to give effective feedback	4.1	Explain the importance of giving and receiving feedback			
		4.2	Discuss the characteristics of effective feedback			
		4.3	Analyse a range of feedback models appropriate to own role			
		4.4	Use a feedback model to give effective feedback to colleagues or patients			
		4.5	Convey scientific and technical information to agreed protocols to the public, patients, carers, colleagues, including giving and receiving feedback			
5	Understand the use of technology to present information orally	5.1	Explain scenarios where an oral presentation may be required			
		5.2	Explain the type of audience you might encounter and how that could impact on the presentation			
		5.3	Discuss different formats for oral presentations using technology			
		5.4	Discuss strategies to actively engage the audience			
		5.5	Discuss potential pitfalls in using technology to present information orally			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
6	Be able to use technology to present information orally in accordance with best practice guidelines	6.1	Plan an oral presentation appropriate to the purpose and audience			
		6.2	Design a method of collecting audience feedback			
		6.3	Rehearse the presentation, including timings			
		6.4	Deliver the presentation to the audience using appropriate technology and communicating effectively			
		6.5	Evaluate feedback to inform future oral presentations			
		6.6	Produce a development plan to use to deliver future presentations			
7	Understand how to deal with confrontation and difficult situations in own area of work	7.1	Explain the factors and difficult situations that may cause confrontation			
		7.2	Explain how communication can be used to solve problems and reduce the likelihood or impact of confrontation			
		7.3	Explain how to assess and reduce risks in confrontational situations			
		7.4	Discuss how and when to access support and advice about resolving conflicts			
		7.5	Explain the agreed ways of working within your role for reporting any confrontations			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 7: Audit, Research, Development and Innovation

Level: 4

Unit type: Mandatory

Credit value: 5

Guided learning hours: 20

Unit summary

Audit, research, development and innovation are an important part of the work of the healthcare science workforce, contributing to the creation of new scientific knowledge and driving innovation for the benefit of individuals. In this unit, you will be introduced to audit, research, development and innovation, and the contribution made by healthcare science and the Healthcare Science Associate to these areas of practice. This is a requirement of the Level 4 Apprenticeship Standard.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the assessment strategy in *Annexe B*.

Additional information

AC1.2 includes:

- the evaluation of treatment efficacy, the research process and research methodologies, and the benefits of research to the critical evaluation of practice.

AC1.4 includes:

- creating new knowledge
- driving innovation, including new technology, new scientific techniques (e.g. genomics and personalised medicine; diagnostics)
- new ways of working
- innovation in education
- new models of care.

AC2.1 includes:

- contribution to patient care
- the effectiveness of services
- service improvement.

Learning outcomes and assessment criteria

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

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to undertake appropriate research, development and innovation activities which support quality improvement in own area of work	1.1	Explain the scientific research process			
		1.2	Explain how and why research and development is undertaken within governance and ethical frameworks			
		1.3	Describe the principles and applications of scientific enquiry			
		1.4	Explain the principles of developing and introducing innovation into practice			
		1.5	Discuss the contribution of the healthcare science workforce to research, development and innovation			
		1.6	Explain ways in which the individual healthcare science associate can support the wider healthcare team in the spread and adoption of innovative technologies and practice			
		1.7	Assess the value of research to the critical evaluation of practice			
		1.8	Perform research and innovation activities which support quality improvement in own area of work			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
		1.9	Perform research and innovation activities in accordance with ethical and research governance approval			
2	Understand the principles and practice of audit in healthcare science	2.1	Explain the role of audit and the audit cycle in healthcare science			
		2.2	Discuss the ethical and governance framework applied to audit			
		2.3	Explain how audit contributes to patient care, the effectiveness of services and service improvement			
3	Be able to participate in scientific and technical audit in own area of work	3.1	Assist in the design, data collection, data analysis and reporting within the clinical audit cycle			
		3.2	Participate in service improvement programmes in own area of work			
		3.3	Lead a quality-management technical audit process			
		3.4	Communicate the outcome of audit and service improvement to senior colleagues to inform future actions			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 8: Leadership and Teamwork

Level: 4

Unit type: Mandatory

Credit value: 3

Guided learning hours: 24

Unit summary

The NHS Leadership Academy states that 'The Healthcare Leadership Model is to help those who work in health and care to become better leaders. It is useful for everyone – whether you have formal leadership responsibility or not, if you work in a clinical or other service setting, and if you work with a team of five people or 5,000.'

In this unit, you will be introduced to the key concepts of leadership, including looking at the skills, qualities and abilities of effective leaders and how your personal qualities affect the experiences of individuals, the organisation, the quality of care provided, and the reputation of the organisation itself. You will be expected to have the skills to lead and work effectively in a healthcare science team. This is a requirement of the Level 4 Apprenticeship Standard.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the assessment strategy in *Annexe B*.

Additional information

For this unit, learners can refer to: http://www.leadershipacademy.nhs.uk/resources/

AC1.2 should include common models of leadership, leadership styles and impact on team-working, such as:

- Authoritarian leadership
- Participative leadership
- Delegative leadership
- Transactional leadership
- Transformational leadership

Team-working models for example Belbin and Tuckman

Learning outcome 2

This learning outcome requires learners to consider the personal qualities of leaders from areas such as politics, sport, healthcare, the voluntary sector.

AC2.2 includes:

- individuals/carers
- the organisation
- the quality of care provided
- the reputation of the organisation itself.

AC3.1 includes:

- generic principles of effective teamwork
- how these generic principles translate into your own organisation:
    - the composition of the teams within own area of work:
        - team structure
        - team objectives
        - lines of reporting
        - responsibilities, including limits of own responsibility
        - when and how to seek support and advice
    - how to develop trust and accountability
    - the leadership of teams within own area of work
    - the values of own organisation
    - the values of teams within own area of work
    - the contribution of each team member
    - how to communicate effectively within teams, and the impact of both positive and negative communication
    - potential barriers to effective multidisciplinary team working
    - how conflict may arise in teams and affect team and personal performance
    - strategies to resolve/overcome conflict.

AC4.2 could include:

- leading quality-management processes
- leading technical audit
- planning the work of a team and the individuals within it
- assessing the work of a team and the individuals within it
- supporting others to provide good patient care and better services

- chairing small-group activities and seeking feedback on effectiveness
- holding office and gaining respect, e.g., as an officer in a course committee, professional body
- supporting and motivating others within own team, group learning etc.
- leading on a departmental initiative
- acting as a positive role model
- providing feedback about teaching and learning experiences in order to improve education provision
- taking opportunities to question more senior staff about future directions and scenarios
- attending relevant national and regional events
- researching appropriate sources of information to support learning
- taking part in student/staff committees, e.g., to review the effectiveness of initiatives.

Learning outcomes and assessment criteria

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

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Understand the principles underpinning the current NHS leadership framework	1.1	Analyse the difference between leadership and management			
		1.2	Explain the concepts of leadership and team-working and their application to practice			
		1.3	Describe the structure of the leadership of the NHS			
		1.4	Describe the structure of the leadership of the healthcare science workforce			
2	Understand the personal qualities associated with effective leaders	2.1	Discuss the skills, qualities, and abilities of effective leaders			
		2.2	Discuss how what the leader does and how they behave affects the experiences of others and the organisation			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Understand how teamwork contributes to high-quality, safe and patient-centred services and care in own area of work	3.1	Evaluate the underpinning principles of effective teamwork and working within and across professional boundaries			
		3.2	Explain the key roles of the healthcare professions that contribute to the multi-disciplinary team in own work area			
		3.3	Evaluate how own role contributes to the work of teams in own area of work			
		3.4	Analyse the stages of team development			
		3.5	Evaluate the contribution of the multi-disciplinary team to patient care, patient safety and quality outcomes			
		3.6	Explain how to promote a 'no-blame culture' within a team			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
4	Be able to work constructively and effectively within multi-disciplinary teams	4.1	Plan and monitor the work of a team and individuals within it to ensure routine work is completed to the required standard			
		4.2	Lead an activity of a team to support effective patient care and provision of services			
		4.3	Support team members in own area of work			
		4.4	Work as part of a multidisciplinary team to ensure effective patient care, patient safety and quality outcomes			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 9: Teaching, Learning and Assessing Practical Skills

Level: 4

Unit type: Mandatory

Credit value: 4

Guided learning hours: 32

Unit summary

In this unit, you will develop the knowledge and skills needed to teach and assess a range of practical skills required by new and junior team members. You will train junior staff in relevant health, safety, and security practices, including infection control. This is a requirement of the Level 4 Apprenticeship Standard.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the assessment strategy in *Annexe B*.

Additional information

AC1.3 includes:

- the key principles of adult learning
- the key principles of learner-centred teaching and learning
- how people learn
- active learning
- the process of teaching and learning practical skills.

AC1.4 includes:

- the importance of the learning environment:
  - specific aspects of the learning environment
  - importance of a positive and supportive environment
- Maslow's Hierarchy of Needs and relationship to teaching and learning practical skills.

AC2.3 includes:

- selection criteria.

AC4.4 includes:

- setting out an action plan to inform future practical skills teaching and assessment sessions.

AC5.2 includes:

- the characteristics of effective feedback.

Learning outcome 6 includes infection control.

AC6.5 includes:

- self-assessment
- learner feedback.

Learning outcomes and assessment criteria

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

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Understand how people learn and key theories of teaching, learning and assessing practical skills	1.1	Define the terms teaching and learning			
		1.2	Explain the three domains of learning: Psychomotor, Cognitive and Affective			
		1.3	Discuss the key theories of teaching, learning and assessment of practical skills			
		1.4	Discuss the physical and psychological conditions that support learning			
2	Understand the process of teaching, learning and assessing a practical skill	2.1	Compare different skills frameworks for teaching and learning practical skills			
		2.2	Discuss the principles underpinning the assessment of practical skills			
		2.3	Evaluate the range of tools available to assess practical skills			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Be able to plan for practical skills teaching sessions in own area of work	3.1	Explain a range of frameworks for planning teaching of practical skills			
		3.2	Use a framework to plan to meet the objectives of the practical skills teaching sessions			
4	Be able to teach and assess junior staff a range of practical skills in own area of work	4.1	Deliver effective practical teaching sessions to meet the needs of own area of work			
		4.2	Plan the assessment of a range of practical skills to meet identified criteria for the area			
		4.3	Assess junior staff performing practical skills in own area of work			
		4.4	Critically reflect on each teaching and assessment session to inform future practice			
5	Be able to use a learner-centred approach to feedback to support learning of practical skills	5.1	Define the term feedback in the context of improving/maintaining learning			
		5.2	Discuss the role of feedback in healthcare science			
		5.3	Assess a range of feedback models appropriate to teaching and learning practical skills			
		5.4	Use a learner-centred approach to feedback following each practical skills teaching session			
		5.5	Use a learner-centred approach to provide feedback for practical skills teaching sessions			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
6	Be able to train junior staff in relevant health, safety/security practices in own area of work	6.1	Discuss own role in training junior colleagues and how this contributes to the delivery of high-quality healthcare			
		6.2	Explain competence and how it can be assessed in own area of work			
		6.3	Plan training sessions for junior staff in relevant health, safety, security practices			
		6.4	Deliver training sessions for junior staff in relevant health, safety, security practices			
		6.5	Evaluate training sessions for junior staff in relevant health, safety, security practices to inform future practice			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

Unit 10: Continuing Personal and Professional Development

Level: 4

Unit type: Mandatory

Credit value: 3

Guided learning hours: 20

Unit summary

In this unit, you will develop the knowledge and skills required to engage in continuing personal and professional development. This is a requirement of the Level 4 Apprenticeship Standard.

Unit assessment requirements

There are no specific assessment requirements for this unit. Please refer to the assessment strategy in *Annexe B*.

Additional information

AC1.2 could include:

- interesting or challenging events
- specific cases or individuals you have seen
- feelings or emotions that you have had
- problems you have encountered
- professional situations
- practical skills acquired
- knowledge and understanding acquired
- attitudes challenged or changed
- ethical dilemmas encountered
- dealing with death or dying patients.

AC1.3 includes:

- use of each reflection to plan, modify and monitor own professional development.

AC2.1 includes:

- the importance of personal health and wellbeing to fitness to practice
- the need to maintain high standards of personal, professional and business conduct
- the importance of protecting individuals from risk or harm
- own role in the diagnostic and therapeutic process, and in maintaining health and wellbeing
- ensuring personal performance and judgement are not affected by own health
- the risks presented by another person's conduct, performance, or health
- what to do when concerns are identified or raised
- acting without delay on concerns raised by individuals or carers, or if you have good reason to believe that you or a colleague may be putting people at risk
- making sure that own conduct justifies the trust of individuals, carers and colleagues at all times
- maintaining the public's trust in the scientific profession.

Learning outcomes and assessment criteria

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

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
1	Be able to critically reflect on own practice to support continuing personal and professional development (CPPD)	1.1	Evaluate the process and models of critical reflection			
		1.2	Discuss the range of experiences that could form the basis of reflection			
		1.3	Critically reflect on own practice as part of a commitment to regular CPPD			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
2	Be able to demonstrate continuing personal and professional development (CPPD)	2.1	Explain the importance of maintaining own fitness to practice			
		2.2	Maintain own fitness to practice as a healthcare science associate			
		2.3	Explain the rationale for engaging in CPPD and critical reflective practice			
		2.4	Evaluate methods for recording, learning, developing and evaluating CPPD action plans			
		2.5	Use appropriate methods to keep own professional, scientific and technical knowledge and skills up to date			
		2.6	Assess the range of experiences that can contribute to continuing personal and professional development			
		2.7	Develop a personal development action plan			
		2.8	Monitor own personal and professional development to adapt to changing situations as required			
		2.9	Respond constructively to the outcome of appraisals and performance reviews			
		2.10	Evaluate sources of information and advice on own occupational training and career			
		2.11	Develop a career plan appropriate to own position			

Learning outcomes		Assessment criteria		Evidence type	Portfolio reference	Date
3	Be able to supervise and mentor junior members of the team	3.1	Explain the purpose of supervision and mentoring junior members of the team			
		3.2	Discuss how supervision and mentoring relate to own role			
		3.3	Explain the underpinning theories of mentoring to support good mentoring practice			
		3.4	Supervise junior members of the team to carry out duties effectively/efficiently and support quality of patient care and provision of services			
		3.5	Mentor junior members of the team to support their CPPD			

Learner name: _____ Date: _____

Learner signature: _____ Date: _____

Assessor signature: _____ Date: _____

Internal verifier signature: _____ Date: _____
(*if sampled*)

10 Appeals

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

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

11 Malpractice

Dealing with malpractice in assessment

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

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

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

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

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

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

Learner malpractice

The head of centre is required to report incidents of suspected learner malpractice that occur during Pearson qualifications. We ask centres to complete JCQ Form M1 (www.jcq.org.uk/malpractice it with any accompanying documents (signed statements from the learner, invigilator, copies of evidence, etc) to the Investigations Processing team at candidatemalpractice@pearson.com. The responsibility for determining appropriate sanctions or penalties to be imposed on learners lies with Pearson.

Learners must be informed at the earliest opportunity of the specific allegation and the centre's malpractice policy, including the right of appeal. Learners found guilty of malpractice may be disqualified from the qualification for which they have been entered with Pearson.

Failure to report malpractice constitutes staff or centre malpractice.

Teacher/centre malpractice

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

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

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

Sanctions and appeals

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

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

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

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

The centre will be notified if any of these apply.

Pearson has established procedures for considering appeals against penalties and sanctions arising from malpractice. Appeals against a decision made by Pearson will normally be accepted only from the head of centre (on behalf of learners and/or members or staff) and from individual members (in respect of a decision taken against them personally). Further information on appeals can be found in the JCQ Appeals booklet (www.jcq.org.uk/exams-office/appeals).

12 Further information and publications

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

Further documents that support the information in this specification:

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

Publisher information

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

13 Glossary

Section A – General terminology used in specification

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

Section B – Terms used in knowledge and understanding criteria

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

Annexe A

Mapping of the Level 4 Healthcare Science Associate Apprenticeship Standard to the qualification content

The grid below maps the knowledge, skills and behaviours (KSBs) of the Level 4 [Healthcare Science Associate] to the content covered in the Pearson BTEC Level BTEC Level 4 Diploma in Healthcare Science

KEY

The learning outcome in mandatory units or the optional unit number identifies where there is coverage of the standard in the qualification.

a blank space indicates no coverage of the knowledge, skills or behaviours in the qualification

BTEC Specialist units **KSBs from the Apprenticeship Standard**		**Unit 1**	**Unit 2**	**Unit 3**	**Unit 4**	**Unit 5**	**Unit 6**	**Unit 7**	**Unit 8**	**Unit 9**	**Unit 10**	**Optional unit**
Professional Practice and Person-centred Care knowledge	the requirements of the NHS Constitution/GSP for 'person centred care and support'		1.4 1.5									
	equality and diversity legislation, policies and local ways of working		1.2 1.3	3.1								
	probity and honesty in all aspects of your professional practice		5.4									

BTEC Specialist units KSBs from the Apprenticeship Standard		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Optional unit
	the importance of involving patients/the public in HCS and in making choices about their care		3.4									
	the principles underpinning the promotion of mental health and well-being		LO7									
	active listening, observation and the use of appropriate language and feedback						3.1					
	best practice in giving an oral presentation						LO5 LO6					
	approaches to effective problem solving					2.6						
Professional Practice and Person-centred Care Skills	never discriminate against patients, carers or colleagues											
	maintain the highest standards of person centred care, treating every person with compassion, dignity, and respect		LO3 LO5									
	develop partnerships with patients/carers/families		3.2									
	promote mental health and well being		7.4 7.5									

BTEC Specialist units KSBs from the Apprenticeship Standard		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Optional unit
	convey information to agreed protocols to the public, patients, carers, colleagues, including giving and receiving feedback						4.5					
	use technology to present information orally						LO5 LO6					
Personal and Professional Development (PPD) knowledge	critical reflection in helping maintain and support the quality and safety of patient care										LO1	
	good mentoring practice, using underpinning theories of mentoring to support this										LO3	
	good appraisal and performance review & the skills required to prepare an action plan										LO2	
Personal and Professional Development (PPD) Skills	critically reflect on your technical/non-technical practice										1.3	
	work within the limits of your personal competence/keep up to date		5.2									
	support the CPPD **(6)** of junior colleagues and respond constructively to appraisal/feedback										3.4 3.5	

BTEC Specialist units KSBs from the Apprenticeship Standard		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Optional unit
Health, Safety and Security knowledge	legislation/policies relating to health and safety at work and your responsibilities				1.3 2.1							
	best practice in infection control practice and local protocols				LO3							
	risk assessments, including dissemination of findings and implementation of outcomes					LO7						
Health, Safety and Security Skills	maintain a safe and healthy working environment				LO1 LO2							
	train junior staff in relevant health, safety/security practices, including infection control and participate in risk assessments										LO3 (3.4)	
Quality knowledge	quality management/improvement/audit and communication skills within the area of practice							LO1 LO2				
Quality skills	lead quality management technical audit processes as required							LO1 LO2 LO3				

BTEC Specialist units KSBs from the Apprenticeship Standard		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Optional unit
Technical Scientific Services knowledge	underpinning clinical science (e.g. anatomy, physiology, pathology, pharmacology, etc.											11 (LO1 LO2)
	genomics, clinical bioinformatics/personalised medicine											12 (LO1 LO2)
	principles and practice of equipment management					LO4						108
	requirements for drafting of Standard Operating Procedures (SOPs)					LO3						
	critical evaluation of the evidence base that underpins your technical practice							1.7				
	a range of different data presentation methods appropriate for the audience/circumstances						LO5 LO6					15 (LO1 LO2) 103
	practical skills teaching frameworks; assessment methods & assessment of practical skills									LO1 LO2		
	the principles underpinning the practical training of others in techniques and procedures									LO1 LO2 LO3		

BTEC Specialist units KSBs from the Apprenticeship Standard		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Optional unit
Technical Scientific Services skills	where appropriate, perform a range of equipment management					LO4						
	skills, e.g. fault-finding/preventative maintenance/calibration/repair					4.4						
	participate in drafting Standard Operating Procedures (SOPs)					LO3						
	make reasoned decisions to initiate/continue/modify or cease using techniques/procedures, reflecting SOPs and senior input					2.5						
	recognise problems and seek technical solutions to them					2.7						
	analyse/interpret/record/present accurately HCS technical data					2.4	LO6					
	supervise/teach/assess practical skills to junior team members									LO3 LO4		
Clinical Care knowledge	duty of care' and safeguarding		5.2		1.1							
	the support available in difficult situations or when a complaint is made						LO7					
	the rights of patients with regard to giving informed consent for treatment when required		4.1 (add. Guid)									

BTEC Specialist units KSBs from the Apprenticeship Standard		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Optional unit
	confidentiality of consultation/medical records and the limits of the concept of confidentiality		4.1 (add. Guid) 4.2									
	the key factors influencing dignity/rights/privacy/confidentiality of patients/colleagues		4.2									
	appropriate technical investigations for relevant clinical conditions					1.3						
Clinical Care Skills	take responsibility for the care you provide and its impact on patients, including safeguarding, if involved in direct patient care			2.4								
	obtain and document appropriate consent in line with protocols			2.5								
	protect patient/carers confidentiality and privacy		4.1									19 75 (1.7) 78 (3.4)
	deliver high quality technical clinical procedures in the investigation/management of patients					1.3						

BTEC Specialist units KSBs from the Apprenticeship Standard		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Optional unit
Audit/Service Improvement knowledge	the governance and ethical framework applied to audit and its contribution to patient care							2.2				
	the delivery of high-quality service outcomes/continuous improvements							LO3				
Audit/Service Improvement skills	participate in audit and/or service improvement programmes							3.2				
	communicate the outcome of audit, service improvement							3.4				
Research & Innovation knowledge	the benefits of research to the critical evaluation of practice							1.7				
	the principles of developing and introducing innovation into practice							1.4				
Research & Innovation skills	undertake appropriate audit/research/innovation activities which							1.8 1.9 LO3				
	support quality improvement in your area of work							LO3				
Leadership knowledge	the principles of leading teams/individuals based on the healthcare NHS Leadership Model **(7)**								LO1			

BTEC Specialist units KSBs from the Apprenticeship Standard		Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7	Unit 8	Unit 9	Unit 10	Optional unit
	common models, and examples of leadership and team-working								1.2 (add guid)			
Leadership skills	plan/assess the work of a team and individuals within it								LO4			
	lead where appropriate and work effectively within the HCS team								LO4			

Annexe B: Assessment strategy

Assessment Principles and Strategy for Level 2 Diploma in Healthcare Science and Level 4 Diploma in Healthcare Science as agreed with the National School of Healthcare Science

1 Introduction

1.1 Level 2 Occupational profile

The **Healthcare Science Assistant** (HCSA) support workforce contributes to safe patient care across all care pathways from conception to end of life in job roles within hospitals, general practice and other settings in the healthcare sector and across all areas of healthcare science. HCSAs perform a range of low risk, routine technical and scientific procedures usually within one broad area of HCS, following specific protocols and in accordance with health, safety, governance and ethical requirements. HCSAs work using standard operating procedures, initially under direct supervision but increasingly with experience, under indirect supervision.

1.2 Level 2 Responsibilities and duties of the role

All HCSAs work effectively within a multi-professional team (MPT) within the limits of their competence but must seek help and support whenever this is required. HCSAs must be aware of the requirements of *Good Scientific Practice* (GSP), which articulates the standards for the HCS profession and upon which the apprenticeship standard is based. Using these professional standards, the HCSA must adhere to employers' policies and protocols to ensure safe and consistent practice within the working environments of HCS. Although not exhaustive, activities undertaken by the HCSA may include: basic life support; preparation of the environment for HCS procedures; production of reliable data, keeping accurate records; stock control of equipment and consumables; inputting and retrieving patient/test specific technical data within required governance processes; performing designated HCS role-specific skills following specified protocols.

1.3 Level 4 Occupational profile

The **Healthcare Science (HCS) Associate** workforce supports the work of HCS Practitioners and Clinical Scientists in performing high quality, safe diagnostic, therapeutic and monitoring technical and scientific procedures from conception to end of life in job roles within hospitals, general practice and other settings in the healthcare sector and across all areas of HCS. They perform a wide range of routine technical and scientific procedures, with minimal supervision, within one of the Divisions in HCS., following specific protocols and in accordance with health, safety, governance, and ethical

requirements. The clinical scientific environment determines the context of the HCS Associate work/role.

1.4 Level 4 Responsibilities and duties of the role

Associates work within a multi-disciplinary team (MDT) within the limits of their competence and must seek help and support whenever this is required. They must be aware of the requirements of *Good Scientific Practice (GSP),* which articulates the standards for the HCS profession and upon which this apprenticeship standard is based.

Using these professional standards, the HCS Associate must adhere to employers' policies/protocols to ensure safe, person-centred/consistent practice in HCS working environments, including paying close attention to detail, working effectively within a team and acting as a role model for more junior members of staff.

While not exhaustive, activities undertaken by HCS Associates within the specific area/environment of HCS within which they work will include: supporting the development and maintenance of standards/protocols as required; contributing to the safe, effective and efficient functioning of diagnostic/therapeutic services; supporting more junior staff in learning required skills and behaviours of those who work in HCS; quality controlling the technical processing of biological samples and physiological and other diagnostic tests; performing routine investigations and telephoning authorised results according to protocols, e.g. in the Life Sciences, full blood counts/microscopy, antibiotic sensitivities/assay, endocrine assessments, immunology assays; in the Physiological Sciences: fitting/removing ambulatory blood pressure monitors and 24hr ECGs; ophthalmic assessments of the structure and function of the eye; pure tonal audiometry; in the Physical Sciences: nuclear medicine imaging, post processing of images; decontaminating, repairing and maintaining medical devices, e.g. in Clinical Engineering medical device maintenance/calibration (including electro-medical); managing technical data and writing technical reports, e.g. in Clinical Bioinformatics which uses specifically designed methods/software for managing biological data.

1.5 This document sets out the assessment principles and approaches to the assessment of the regulated Level 2 Diploma in Healthcare Science and Level 4 Diploma in Healthcare Science qualifications.

1.6 The information is intended to support the quality assurance processes of Awarding Organisations that offer qualifications in the sector.

1.7 Throughout this document the term unit is used for simplicity, but this can mean module or any other similar term.

2 Assessment Principles

2.1 Learners must be registered with the Awarding Organisation before formal assessment commences

2.2 Assessment systems should, where possible, be integrated with employers' training and career development programmes.

2.3 Evidence of competence should come from workplace activity. Observation should be the principle method of assessment where practicable. Any knowledge evidence integral to competence-based learning should ideally be generated in the work environment but can also be generated through other assessment methods such as professional discussion and assignments.

3 Assessment Strategy

3.1 Simulation

3.1.1 The Healthcare Science Sector holds the view that simulation is a practical and effective tool for establishing skill and understanding where naturally occurring evidence of competence is rarely available

a. The environment in which simulation takes place must be designed to match the characteristics of the working environment

b. Simulation must not be used as the sole form of evidence for any unit within this qualification

3.2 Assessors and Verifiers

3.2.1 The roles and competence of assessors, expert witnesses and verifiers are central to the way assessment is managed.

3.2.2 Wherever possible, assessment of competence assessment criteria should be conducted by the learner's supervisor and/or manager in a workplace environment. In no circumstances may a competence-based qualification for the Healthcare Science sector be delivered without the involvement of the learner's line manager to confirm the learner's competence.

3.2.3 Those acting as assessors, internal verifiers and external verifiers will require strong interpersonal and communication skills in addition to their assessment and technical expertise and will require to undertake appropriate continuing professional development in order to maintain their occupational competence.

3.3 Assessors

3.3.1 Assessors must:

- have been working in the Healthcare Science sector for a minimum of 3 years and hold a position of responsibility
- hold a relevant professional or occupational healthcare science qualification
- hold or be working towards an appropriate assessor qualification within 12 months of starting to assess the Level 2 and Level 4 Diplomas in Healthcare Science. Assessors holding legacy qualifications must be able to demonstrate that they are assessing to current standards.
- to be a trainee assessor, individuals should have relevant and recent experience in assessing work-based knowledge and competence and also have an understanding of the current units being assessed.
- the person responsible for signing off the full qualification must be a qualified assessor; where the assessor has not completed an assessor qualification, unit assessment decisions should be countersigned.
- complete CPD activities to ensure knowledge and occupational competence are kept up to date.

3.4 Internal Verifiers

3.4.1 Internal Verifiers must:

- have been working in the Healthcare Science sector and hold a position of responsibility for a minimum of 3 years
- have experience of assessing competence-based qualifications or non-accredited programmes
- have EITHER any qualification in assessment of workplace performance OR a work role that involves evaluating the everyday practice of staff within their area of expertise
- hold or be working towards an appropriate verifier or quality assurance qualification within 12 months of starting to internally verify the Level 2 and level 4 Diplomas in Healthcare Science. Those holding legacy qualifications must be able to demonstrate that they are working to current standards.
- complete CPD activities to ensure knowledge and occupational competence are kept up to date.

3.5 Co-ordinating and Lead Assessors

In order that the requirements for occupational competence of assessors and expert witnesses can be met while allowing flexibility of delivery, learners may have more than one assessor or expert witness involved in the assessment process.

Where more than one assessor is involved in the qualification there must be a named assessor who is responsible for the overall co-ordination of the assessment for each learner. This person will be responsible for integrating, planning, and directing the assessment for the whole qualification. Where more than one assessor is involved in a unit, there must be a named assessor who is responsible for the overall co-ordination of the assessment for that unit. The lead assessor must ensure that the best use is made of all available evidence and will make the final judgement of competence in each unit where other assessors have been involved. It is expected that all assessors will work closely with internal quality assurers to ensure standardised practice and judgements within the assessment process.

3.6 External Verifiers

3.6.1 External Verifiers ideally must:

- have a minimum of 3 years' experience of working in the Healthcare Science sector
- have an appropriate qualification: healthcare science associate or equivalent to assess level 2 and healthcare science practitioner or equivalent to assess level 4
- have EITHER any qualification in assessment of workplace performance OR a work role that involves evaluating the everyday practice of staff within their area of expertise
- have working knowledge of healthcare science setting, the regulation, legislation and codes of practice for the service (where applicable) at the time any assessment is taking place
- have credible experience which is clearly demonstrable through continuing learning and development

3.7 Expert Witness

An expert witness must:

- have a working knowledge of the units for which they are providing expert testimony
- be occupationally competent in the area for which they are providing expert testimony

- have EITHER any qualification in assessment of workplace performance OR have a work role that involves evaluating the everyday practice of staff within their area of expertise.
- This document sets out the assessment principles and approaches to the assessment of the regulated Level 2 Diploma in Healthcare Science and Level 4 Diploma in Healthcare Science qualifications.

3.8 Witness testimony

- is an account of practice that has been witnessed or experience by someone other than the assessor and learner
- can have particular value in confirming reliability and authenticity in avoiding tokenistic assessment and in the assessment of practice in sensitive situations
- provides supporting information for assessment decisions and should not be used as the only evidence of competence.

4 Definitions

4.1 Occupationally competent

- each assessor must be capable of carrying out the full requirements of the area they are assessing
- occupational competence may be at unit level for specialist areas: this could mean that different assessors may be needed across a whole qualification while the final assessment decision for a qualification remains with the main assessor
- occupationally competent means also being occupationally knowledgeable
- occupational competence should be maintained annually through clearly demonstrable continued learning and professional development.

4.2 Occupationally knowledgeable

- each assessor should possess relevant knowledge and understanding
- occupationally knowledgeable assessors may assess at unit level for specialist areas within a qualification, while the final assessment decision for a qualification remains with the main assessor
- occupational knowledge should be maintained annually through clearly demonstrable continued learning and professional development.

4.3 Qualified to make assessment decisions

- each assessor must hold, or be working towards holding, a qualification suitable to support the making of appropriate and consistent assessment decisions
- the Awarding Organisation will determine what will qualify those making assessment decisions according to the unit of competence under assessment

4.4 Qualified to make quality assurance decisions

- Awarding Organisations will determine what will qualify those undertaking internal and external quality assurance to make decisions about that quality assurance.

5 Codes and Standards of Conduct

Academy for Healthcare Science – Good Scientific Practice (2021)

https://www.ahcs.ac.uk/standards/

November 2022

For information about Pearson qualifications, including Pearson Edexcel, BTEC and LCCI qualifications, visit qualifications.pearson.com

Pearson Education Limited. Registered in England and Wales No. 872828
Registered Office: 80 Strand, London WC2R 0RL.

VAT Reg No GB 278 537121