apprenticeship FRAMEWORK

Healthcare Science Associate

IMPORTANT NOTIFICATION FOR ALL APPRENTICESHIP STARTS FROM 14 OCTOBER 2016

Modifications to SASW came into effect on 14 October 2016. These changes relate to the **Essential Skills** and **Employer Rights and Responsibilities** requirements of a framework and they **ONLY** apply to **new Apprenticeship starts on, or after, 14th October**. Apprenticeship starts before this date must continue to meet the 2013 SASW requirements for Essential Skills and Employer Rights and Responsibilities.

For more details of the changes and how they will affect new apprenticeship starts, please read the following preface page to the framework document. NB: Please check the "Revising a Framework" section for information on any additional changes that may have been made to this framework.

Latest framework version?

For any previous versions of this framework: www.acwcerts.co.uk/framework_library

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Prentisiaethau Apprenticeships

Healthcare Science Associate

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Framework information

Information on the Issuing Authority for this framework:

Skills for Health

The Apprenticeship sector for occupations in health care.

	This framework includes:
Issue number: 1	
Framework ID: FR04422	Level 2 ☐ Level 3 ☐ Level 4-7 ☒
Date this framework is to be reviewed by: 01/05/2022	This framework is for use in: Wales

Short description

This Level 4 Healthcare Science Associate Apprenticeship Framework has been developed with employers who provide healthcare science services in the Life Sciences, Physics, Clinical Biomedical Engineering and the Physiological Sciences to meet the needs of healthcare employers in Wales and provide development opportunities for those seeking a career in healthcare science.

Apprentices are employed in the role of in a range of level 4 Healthcare Science Associate roles and will gain the new skills and learning they need to carry out these job roles as well as preparing them for future employment and career progression within the health sector.

It provides progression routes into a wide range of roles in the health sector and is a work-based programme.

Contact information

Proposer of this framework

The proposer for this framework is Skills for Health who worked with stakeholders to develop qualifications and apprenticeship frameworks to ensure that these meet both employer and SASW requirements. Employers and other stakeholders involved came from the NHS health boards and trusts in Wales, awarding bodies and training providers.

Developer of this framework

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Who is making this revision   Name

Your organisation   Organisation Name

Your email address: Email address

Revising a framework

Why this framework is being revised

Framework Developer to complete with relevant info

Summary of changes made to this framework

Framework Developer to complete with relevant info

Qualifications removed

Framework Developer to complete with relevant info

Qualifications added

Framework Developer to complete with relevant info

Qualifications that have been extended

Framework Developer to complete with relevant info

Purpose of this framework

Summary of the purpose of the framework

Definition:

An Apprenticeship is a job with an accompanying skills development programme designed by employers in the sector. It allows the apprentice to gain technical knowledge and real practical experience along with functional and personal skills, required for their immediate job and future career. These are acquired through a mix of learning in the workplace, formal off the job training and the opportunity to practice and embed new skills in a real work context. On completion of the Apprenticeship, an apprentice will be able to undertake the full range of duties, in the range of circumstances appropriate to the job, confidently and competently to the standard set by the health sector.

About the health sector:

The health sector comprises those working in the NHS (public sector) as well as voluntary and private healthcare providers and employs over 2 million people. The range of roles within the sector is very varied and the NHS careers site lists in the region of 300 different jobs. The NHS Wales is the sixth-largest public sector employer in UK by number of employees (72,000) employed by local health boards and NHS trusts.

Individuals are likely to stay within the health sector for the majority of their working lives although they are also likely to change between different job roles and different employers as their career progresses.

As a whole the workforce within the health sector tends to reflect the population within the local community it serves. As the UK population as a whole becomes older and lives longer so does the healthcare workforce. Widening participation policies apply and health sector employers recruit accordingly and may use their apprenticeship schemes as a means to address some of these issues.

There is a range of challenges for the health sector as a whole: an ageing population creates higher demand for services and ongoing care; patients have a greater choice of which services and treatments they access; and the current economic climate means that budgets are tight.

Apprenticeships are one of the many ways in which employers within the health sector are seeking to address some of these increasing pressures. A qualified and competent support workforce is vital to the patient experience and to the smooth running of services.

About this framework:

The healthcare science workforce of NHS Wales is rich and diverse; they are involved in over 80% all clinical diagnoses that directly impact upon patient care. Healthcare scientists provide

diagnostic, rehabilitative and therapeutic services in areas such as nuclear medicine, clinical physiology, biomedical engineering, laboratory sciences, imaging, bioinformatics and rehabilitation sciences. They inform clinical decisions by generating and interpreting a wide variety of complex data, delivering early disease diagnosis, rehabilitative interventions, improved reproductive health and fertility, developing advanced therapeutics, managing medical equipment and devices, and formulating disease prevention strategies. Healthcare scientists also introduce, evaluate and operate new and emerging health technologies in order to continually improve patient care and outcomes, and lead on the analysis and synthesis that underpins innovative 'whole system' service improvements.

Based on figures from December 2018 there are 3700 healthcare science professionals within NHS Wales, who practice in over 50 different scientific disciplines. Of these approximately 1400 work in support roles assisting the registered healthcare science workforce.
This framework supports the broad vision of the sector to develop an increasingly skilled, flexible and effective workforce whilst maintaining high quality and safe care for patients.

The Science Behind Prudent Healthcare: Healthcare Science in NHS Wales -Looking Forward published by the Welsh Government in 2018 underlines the opportunities for 'individuals who can pursue exciting and enriching careers across different scientific pathways.' The profession continues to evolve in response to emerging innovations through new scientific techniques and discoveries, and as new care pathways and service models are developed and commissioned.

Skills for Health is committed to engaging with employers, professional bodies and other stakeholders in the development of apprenticeship frameworks. Engagement and consultation is through meetings including face to face and teleconferences and e-consultation. Consultation ensured that employer views are reflected in this framework on the minimum duration, the on and off the job learning time, Apprentices will learn new skills and knowledge whilst carrying out real work as part of the healthcare team. Each apprentice is employed under terms and conditions laid out in an Apprenticeship Agreement between the employer and apprentice and are paid at least the applicable rate under the Apprenticeship National Minimum Wage.

About the role:
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. (The titles of Clinical Scientist, Biomedical Scientist and Radiographer are all protected titles.)

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.

Healthcare science professions represent a rich and diverse group of over 50 disciplines.

Healthcare Science falls into the following broad and overlapping areas of:

1. Laboratory sciences

• Blood sciences – haematology / immunology / clinical biochemistry
• Transfusion Science
• Histocompatibility and Immunogenetics
• Haematology
• Haemostasis and thrombosis
• Electron microscopy
• External quality assurance
• Cytopathology including cervical cytology
• Clinical Immunology
• Clinical embryology and andrology
• Clinical biochemistry
• Anatomical pathology
• Analytical toxicology
• Microbiology including infection control and epidemiology, decontamination science, virology, bacteriology, mycology, and parasitology
• Cellular sciences – reproductive medicine / histopathology / cytopathology
• Genomic Sciences including genomic counselling
• Tissue banking
• Decontamination Science
• Paediatric metabolic biochemistry
• Cervical screening - HPV Molecular testing
• Bowel Screening - FIT testing

2. Physical sciences and biomedical engineering

• Biomedical engineering
• Radiotherapy physics
• Imaging with ionising radiation
• Imaging with non- ionising radiation
• Radiation safety physics
• Clinical pharmaceutical science
• Clinical measurement and development
• Clinical engineering
• Reconstructive science
• Diagnostic radiology
• Equipment management and clinical engineering

- Magnetic resonance imaging
- Maxillofacial prosthetics and reconstruction
- Medical electronics and instrumentation
- Medical engineering design
- Medical illustration and clinical photography
- Nuclear medicine
- Radiation protection and monitoring
- Radiopharmacy
- Rehabilitation engineering
- Renal dialysis technology
- Ultrasound

3. Physiological sciences

- Audiology
- Autonomic neurovascular function
- Respiratory physiology
- Sleep physiology
- Ophthalmic and vision science
- Neurophysiology
- Gastrointestinal physiology
- Urodynamics and urological measurements
- Critical care technology
- Cardiac physiology
- Cardiac perfusion
- Vascular science
- Vascular technology
- Respiratory and sleep physiology
- Screening-HPV Molecular testing/FIT testing

4. Bioinformatics

Clinical Bioinformatics is a cross-divisional field and an increasingly important emerging division within Healthcare Science, due to the NHS Genomics and Personalised Medicine agendas.
There are currently the following specialisms within clinical bioinformatics:
- Clinical bioinformatics and genomics
- Health Informatics Science
- Clinical Bioinformatics for the physical sciences
- Computer science and modelling

• Physical sciences and biomedical engineering

5. Imaging sciences

• Radiographer-diagnostic
• Radiographer-therapeutic
(The full list of healthcare science specialisms in Wales is on p 27 of the following document: https://g ov.wales/docs/dhss/publications/healthcare-science-in-nhs-wales2.pdf)

Responsibilities and duties of the role:

Healthcare Science 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 framework is based-the Academy for Healthcare Science's (AHCS) Good Scientific Practice (GSP) is at the core of professional HCS practice across the entirety of the HCS workforce and underpins the knowledge, skills and behaviours required for HCS Apprenticeships.

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/assays, endocrine assessments, immunology assays; in the Physiological Sciences: fitting/removing ambulatory blood pressure monitors and 24-hr ECGs; ophthalmic assessments of the structure and function of the eye; pure tone 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.

Aims and objectives of this framework (Wales)

The apprenticeship framework will contribute towards developing a health sector with a skilled, flexible and effective workforce whilst maintaining high quality and safe care for patients.

Through completion of this apprenticeship learners will gain:

• Broad base training in the chosen occupational area
• Work experience that leads to competency in the work place
• Transferable Skills

Employers have endorsed the apprenticeship programme as it gives the broad base training in the skills for the occupational area through the completion of qualifications which are based on National Occupational Standards. This programme leads to better productivity, retention and a qualified workforce which aids the employer. Job role and outline can be viewed later in this document (see section 'Jobs').

The apprenticeship programme ensures that learners are supported in the application of their learning directly into the workplace. Learners receive a minimum guaranteed amount of on and off the job training and will acquire transferable skills to support further progression.

The framework specifically supports the need to develop the skills and knowledge of workers at Career Framework level 4 and provides career progression routes.

Entry conditions for this framework

Apprentices should:
• Typically, be aged 18 years or older
• Demonstrate previous learning in a related discipline or equivalent experience
• Have achieved a level 3 qualification in a relevant area or equivalent experience
• Adhere to the standards of GSP which sets out the standards of behaviour, practice and personal conduct that underpin the delivery of HCS appropriate to the role or work undertaken
• Show enthusiasm for working in the health sector
• Have achieved literacy, numeracy, communication and digital literacy skills on which the apprentice will build
• Undergo Disclosure and Barring Service checks (this is needed as apprentices may or will come into contact with children, young people or vulnerable adults)
• Be flexible as there may be a requirement to work shifts

Individual health sector employers may have additional employment entry requirements e.g. a current driving licence would also be an advantage (and may be necessary for some roles).

Initial Assessment:
Training providers and employers will use initial assessment to identify prior learning and experience so that they can tailor the Apprentices' Individual Learning Plan only. This initial assessment will not be used to screen out applicants. Employers may use a separate interview or application process to assess an individual's suitability for employment in the health sector.

Level 4

Title for this framework at level 4

Healthcare Science Associate

Pathways for the framework at level 4:

Pathway 1:   Healthcare Science Associate

Apprenticeship Certification Wales

Level 4, Healthcare Science Associate

Description of this pathway

Healthcare Science Associate Total 118 credits.

- Combined qualification 100 credits
- Essential Skills 18 credits

Entry requirements for this pathway in addition to the framework entry requirements

Applicants to this Apprenticeship will be from different age groups (typically aged 18 and over), with differing backgrounds and experience.

As a guide, applicants may enter via a range of routes including from:
- work
- work experience
- college
- training and/or experience which may include a portfolio showing what they have done

Applicants may have already achieved a range of qualifications eg:
- Essential Skills Wales
- Apprenticeship
- GCSEs
- GCEs
- Welsh Baccalaureate (at this time there is no credit transfer)
- Welsh Baccalaureate with Principal Learning (at this time there is no credit transfer)
- Other level 3 qualifications

Apprentices who wish to accredit any prior learning must select options within the framework which will equip them with new skills and learning.

Personal Attributes

Employers look for health sector apprentices who are:

- compassionate
- honest,
- well organised
- conscientious
- discreet
- respectful
- personable
- well organised

They also expect them to:

- Be able to work in a team
- Carry out their duties meticulously

Job title(s)	Job role(s)
Healthcare Science Associate	Supports the work of HCS Practitioners 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.

Qualifications

Competence qualifications available to this pathway

N/A

Knowledge qualifications available to this pathway

N/A

Combined qualifications available to this pathway

B1 – Level 4 BTEC Diploma in Healthcare Science

No.	Ref no.	Awarding organisation	Credit value	Guided learning hours	UCAS points value
B1a	C00/3831/3	Pearson	100	686	1000

Relationship between competence and knowledge qualifications

Learners will need to meet the Level 4 BTEC Diploma in Healthcare Science requirements before the qualification can be awarded and the framework achieved. This is a combined knowledge and competence qualification and has been designated by Qualifications in Wales for use in Wales.

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

The following 10 units are mandatory:

1. Skills for Lifelong Learning
2. Professional Practice and Person-centred Care
3. Legal and Ethical Context of Practice
4. Health, Safety and Security in the Healthcare Science Environment
5. Technical Scientific Services
6. Effective Communication in Healthcare
7. Audit, Research, Development and Innovation
8. Leadership and Teamwork
9. Teaching, Learning and Assessing Practical Skills
10. Continuing Personal and Professional Development

There are 122 available optional units. The optional units selected will depend on the role and discipline being undertaken by the apprentice. (See the Awarding Body Qualification Specification for the available units and any required unit combinations in the structure).

The units will continue to be reviewed by NHS Wales employers to identify which ones are specific and fully applicable to Healthcare Science roles in Wales.

Essential Skills

An apprenticeship framework must specify as a Welsh certificate requirement the expected achievement levels of Essential Skills in Communication and the Application of Number.

Where Essential Skills qualifications are specified in an apprenticeship framework, the apprenticeship framework must specify the acceptance of a recognised proxy qualification for Communication and Application of Number.

Communication

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Communication achievement above the minimum SASW requirement?   YES   ☐   NO   ☒

If YES, please state the grade/level required for English and give a brief **REASON** as to why this is required:

Enter alternative grade/level requirements and reasons here.

Application of Number

For the current list of acceptable proxy qualifications and appropriate **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Application of Number achievement above the minimum SASW requirement?   YES   ☐   NO   ☒

If YES, please state the grade/level required for Maths and give a brief **REASON** as to why this is required:

```
Enter alternative grade/level requirements and reasons here.
```

Inclusion of Digital Literacy (ICT)

Digital Literacy (ICT) is an **optional** framework requirement.

Is Digital Literacy a requirement in this framework?   **YES**   ☒   **NO**   ☐

Digital Literacy (ICT)

Please note that there are currently no acceptable proxy qualifications for Digital Literacy (ICT).

For the current **minimum** grade/level requirements, please refer to the most recent version of SASW on the gov.wales website. Additional guidance materials can be found on the Knowledge Base section of the ACW website.

Does this framework require Digital Literacy (ICT) achievement <u>above</u> the minimum SASW requirement?   YES   ☐   NO   ☒

If YES, please state the grade/level required for **Digital Literacy (**ICT) and give a brief **REASON** as to why this is required:

```
Enter alternative grade/level requirements and reasons here.
```

Progression routes into and from this pathway

PROGRESSION INTO THIS PATHWAY

See Entry Requirements.

PROGRESSION FROM THIS PATHWAY

Learners may progress from this pathway onto further qualifications specific to their work context which may be in other healthcare and related services. These may include qualifications or other work-related education and training to support Continuing Professional Development.

Learners may also progress from this pathway into Higher Education undertaking a range of related degrees and NHS Wales employers will make links with Higher Education Institutions to share framework content for the various disciplines.

Progression should not just be seen as vertical. In some instances, progressing into another role at the same level may be just as rewarding as it offers the opportunity to develop new skills and knowledge.

UCAS points for this pathway:

N/A

Employee rights and responsibilities

Please note that for Apprenticeship starts from 14/10/2016 onwards ERR is no longer a **mandatory** requirement in all frameworks.

However, it may still be included in some frameworks and where it is not explicitly stated that ERR is not a requirement then confirmation of an Apprentice's ERR achievement will still remain a requirement for Apprenticeship certification purposes.

Is ERR a requirement for this framework?   **YES**   ☐   **NO**   ☒

Delivery and assessment

Framework Developer to complete with relevant info

How equality and diversity will be met

There should be open recruitment to apprenticeship frameworks which is available to all who meet the stated selection criteria for the apprenticeship programme they are applying to. Skills for Health expects all partners involved in the delivery of the apprenticeship to comply with the Equality Act 2010 to ensure that applicants are not discriminated against, in terms of entry to and progression within the health sector, using the 8 protected characteristics of:

1. Age
2. Disability
3. Gender reassignment
4. Marriage and civil partnership
5. Pregnancy and maternity
6. Race
7. Religion or Belief
8. Sex or sexual orientation

Employers/providers must be able to demonstrate that there are no overt or covert discriminatory practices in selection, recruitment and employment. All promotional, selection and training activities must be monitored and comply with legislation.

All jobs are open to both males and females and are advertised accordingly. Skills for Health is not aware of any imbalance in the take up of this particular framework eg by ethnic groups. For all health apprenticeships local recruitment is encouraged to reflect the local community.

It is recommended that employers/providers conduct an exit interview if the apprentice leaves the programme before completion. During the learner's exit interview, it is recommended that information on learners leaving the programme before completion is identified and used to support the learner and develop the provision where necessary.

On and off the job training

Summary of on- and off-the-job training

To satisfy the requirements of this apprenticeship framework and pathway an apprentice will need to complete a total of 2086 on and off-the-job training hours- typically over 24 months

(This figure is based on: (a) all total qualification time -BTEC 1000 hours, (b) 3 Essential skills 180 hours and (c) a minimum of 20 hours induction and mentoring and other support=1200 hours)

Off-the-job training

For this apprenticeship framework and pathway an apprentice will need to complete a minimum of 886 off-the-job training hours.

(This figure is based on: (a) 3 Essential skills 180 hours and (b) a minimum 20 hours induction and mentoring and other support(c) GLH from the BTEC 686=886 hours)

On-the-job training

For this apprenticeship framework and pathway an apprentice will need to complete a minimum of 314 on-the job training hours typically over 24 months.

(This figure is based on:1200 hours total qualification time in (i) above minus 886 hours off the job =314 on the job hours).

How this requirement will be met

On-the-job learning will comprise:

Level 4 BTEC Diploma in Healthcare Science

Evidence to support the application for an apprenticeship completion certificate for on-the job training will include the qualification certificate for the above qualification detailing the units completed:

It is expected that:
• On-the-job and off the job training hours are both planned, reviewed and evaluated jointly between the apprentice and a tutor, or teacher; their workplace supervisor or manager and, where relevant the apprentice's coach or mentor.
• On-the-job and off the job training support via either a tutor, teacher, manager or mentor is

made available when required by the apprentice.

• On-the-job and off the job training hours are delivered through one or more of the following methods: individual and group teaching; e-learning; distance learning; coaching; mentoring; feedback and assessment; collaborative/networked learning with peers; guided study.

Wider key skills assessment and recognition

While Wider Key Skills are not a **mandatory** part of the framework, training providers are encouraged to provide apprentices the opportunity to achieve them.

For this framework, there are natural opportunities for Wider Key Skills to be embedded within the mandatory units of the following qualifications:

Enter Qualification Names

Improving own learning and performance

Give examples - signpost to specific units in framework qualifications that would meet these requirements

Working with others

Give examples - signpost to specific units in framework qualifications that would meet these requirements

Problem solving

Give examples - signpost to specific units in framework qualifications that would meet these requirements

apprenticeship
FRAMEWORK

For more information visit-
www.acwcerts.co.uk/framework_library