



Healthcare Science Assistant Apprenticeship – End point Assessment Plan (EPA)

Summary of Assessment

The Healthcare Science Assistant (HCSA) apprenticeship standard at Career Framework Level 2 available at: <https://www.gov.uk/government/publications/apprenticeship-standard-healthcare-science-assistant>, was 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 and provide development opportunities for those seeking a career in healthcare science.

This document sets out the end point assessment (EPA) plan describing how an apprentice on the HCSA programme is to be summatively assessed to determine that they have met full occupational competency. The primary audience is the Assessment Organisation (AO) intending to offer the EPA but it is envisaged that the content will also be of interest and use to apprentices, parents, employers, professional bodies and other stakeholders.

The EPA is a synoptic assessment, designed to meet the following principles ensuring that the apprentice is able to demonstrate full competency:

- Allows an apprentice to demonstrate achievement of competences across all areas specified in the HCSA Apprenticeship Standard.
- Conducted in a way that ensures fairness for all apprentices, and produces outcomes that are reliable and relevant for employers.
- Deliverable within the workplace.
- Offers a range of methods to afford the apprentice accessible opportunities to demonstrate how the knowledge, skills and behaviours outlined in the Standard have been met.
- Offers flexibility for employers and apprentices by being available as and when the apprentice is ready to take the EPA as judged by the employer and apprentice.

This document does not cover on-programme assessments except for requiring that the evidence of these be gathered (usually in a portfolio) to inform the Professional Discussion element of the EPA (see section covering On-programme Assessment below) and on-going competence evaluation carried out by the employer or their nominated training provider to determine readiness of the apprentice to take the EPA. Neither does it cover how the L2 Diploma in Healthcare Science and L1 English and Mathematics mandatory qualifications must be achieved to meet the Standard.

All three elements of the EPA are equally significant in achieving programme completion and are equally weighted.

Assessment Overview [set out key assessment information]			
Assessment Method	Area Assessed	Assessed by	Grading
Vocational Competence Observation (VCO)	<ul style="list-style-type: none"> • Professional Practice • Clinical Care • Communication • Health, Safety and Security • Quality • Technical Scientific Services 	Assessment Organisation	Fail / Pass This element is not graded and should be assessed as an absolute – the apprentice is either able to carry out the task or is not. Whilst some apprentices may be better at any given task than others, the significant aspect for the programme is that the apprentice is able to carry out the task effectively and without putting others or themselves at risk.
Professional Practice Test (PPT)	<ul style="list-style-type: none"> • Professional Practice • Health, Safety and Safety • Clinical Care • Audit/Service Improvement • Leadership 	Assessment Organisation	Fail / Pass / Merit / Distinction
Professional discussion (PD) about development and achievement informed by evidence presented (usually in a portfolio)	All skills domains outlined in the Standard	Assessment Organisation	Fail / Pass / Merit / Distinction

Professional Qualifications

- Level 2 Diploma in Healthcare Science

On-programme Assessment [if used]

It is recommended that there is regular, on-programme assessment in the workplace of the apprentice's development of competency and performance in the workplace to ensure that there is full and sufficient evidence of the apprentice's readiness to undertake the EPA. A variety of assessment instruments are available to assist workplace assessment such as Direct Observation of Practice (DOP) and Case based Discussions (CBD).

This could include evidence of personal and professional development gained from 2 multisource feedback (MSF) exercises conducted at approximately 3 months from the start of the apprenticeship and 4 months from completion of the apprenticeship. This allows the apprentice time to reflect and describe what they have learned about their personal and professional behaviours and what improvements they have been able to make to help develop these in preparation for their Professional Discussion. The apprentice may decide to present their reflective piece as written text, video or audio recording or as a reflective mind map and it will form part of the Professional Discussion.

Evidence of on-programme learning and development must be gathered, usually in a portfolio, and will be required to inform the Professional Discussion for Element 3 of the EPA.

Assessment Gateway

- Achievement of L1 English and L1 mathematics qualifications and test taken for L2 English and mathematics prior to taking the end point assessment (not required to pass at L2);
- Achievement of the L2 Diploma in Healthcare Science;
- Satisfactory evidence, usually recorded in a portfolio, demonstrating that the apprentice has achieved the skills, knowledge and behaviours set out in the Standard;
- Some evidence that the apprentice has developed an insight into their personal and professional development as shown by the reflective self-assessment following the MSF exercises.

The employer, in discussion with the apprentice, will be responsible for judging when the apprentice has achieved all of the above and is ready to attempt the EPA using the processes of the appointed Assessment Organisation. The employer may wish to request review reports from any trainers/training providers involved in supporting the apprentice throughout the programme to inform their judgement and ensure they are confident in their assessment of the apprentice's readiness to undertake the EPA.

End - Point Assessment

The three elements of the EPA are designed to ensure that the apprentice has the opportunity to demonstrate in a variety of ways that they have achieved the skills, knowledge and behaviours outlined in the Standard.

The knowledge, skills and behaviours will be assessed using the blend of methods outlined in the Assessment Overview and explained in detail below. It is expected that the AO will develop a recording tool such as a matrix including all of the knowledge, skills and behaviours indicated against all of the domains of the Standard to be used to record assessment evidence seen/elicited across all elements.

Element 1- Vocational Competence Observation (VCO) – 30 mins (10 mins per task) plus 15 minutes for discussion and recording

The apprentice will need to undertake and be observed in three work-based tasks in their workplace that form part of their routine practice as an HCS Assistant in that specialism. The tasks will be selected from a list of standardised tasks derived by the AO from the learning guide for the programme undertaken by the apprentice and observed and assessed by the assessor in the apprentice's workplace. The selected tasks to be observed should be facilitated by the employer/training provider. The assessor will discuss the tasks with the apprentice using a standardised questions schedule (as developed by the AO) in order to assess underpinning knowledge and understanding, meeting any relevant approved clinical standards or procedures.

This element of the EPA will cover the knowledge, skills and behaviours required on the following domains:

- Professional Practice
- Communication
- Health, Safety and Security
- Quality
- Technical Scientific Services
- Clinical Care

Element 2 – Professional Practice Test (PPT) – 60 mins for apprentice to undertake the test under exam conditions; 20 minutes for discussion; 15 mins for all responses to be assessed and recorded

For the test, the apprentice will review 8 brief workplace-based scenarios (selected from a bank of scenarios developed by the AO) and describe the actions (in order) they would take in response to the scenario using a PPT response worksheet (developed by the AO).

The discussion allows the assessor to satisfy demonstration of competency on the professional practice domains by providing the apprentice the opportunity to expand on responses as required. As part of the discussion, the assessor should elicit which scenario the apprentice considers to be the most and least urgent and rationale for their response. A standardised questions schedule should be developed by the AO and used for this part of this element.

Some examples of workplace scenarios are:

- 1) A patient with regular appointments asks to see the senior manager to complain that they are very stressed at their appointment being late because they are missing time from work. You know that your manager is engaged in an important telecom and will not be available for another half an hour. Determine the actions required and the urgency of resolving this issue.
- 2) You enter a ward to take some measurements from a patient as requested by the Clinical Scientist and notice that there has been a spillage by the bedside of another patient. Describe the actions you would take and the urgency with which you would carry out each step.

Knowledge, skills and behaviours on the domains identified in the Assessment Overview table, and indicated below for this element, apply across all healthcare science specialisms and against which the apprentice's responses for this element are to be assessed:

- Professional Practice (how does the apprentice professionally handle situations and issues)
- Health, Safety and Security (consideration given to safe practices including the security of the patient, own self, others in the workplace)
- Clinical Care (consideration given to patient care and wellbeing)
- Audit/Service Improvement (insight and demonstration of implication of actions)
- Leadership (demonstration of initiative and independent working)

With reference to the domains above, the response to each scenario should be assessed as:

Fail – has not shown any understanding of the situation and cannot not identify at least the significant action/s

Pass - has shown good understanding of scenario, can describe the significant remedial action/s and is able to give some consideration to the order of urgency of the action/s described

Distinction – has shown excellent understanding of the scenarios, can describe the significant action/s and order of urgency as well as potential implication/s for the service.

Grading of this element should be determined with reference to the descriptors provided for the end point grading.

Element 3 - Professional discussion (PD) informed by the evidence presented – 30 minutes plus 15 minutes to complete assessment record

The apprentice should gather all appropriate evidence of learning and development (usually in a

portfolio, most likely digital) over the duration of the apprenticeship programme and make it available for the EPA assessor. The professional discussion between the apprentice and assessor should take place in a suitable environment in the workplace (arrangements facilitated by the employer/training provider). It is suggested that the AO uses tools that ensure assessment reliability and consistency such as a standardised question schedule and a recording matrix.

The duration of the PD is likely to be around 45 minutes; however, this is guidance only and consideration should be given to accessibility issues including the apprentice's language skills.

This element of the EPA will cover at least those skills, behaviours and knowledge from across the whole Standard not fully covered by elements 1 and 2 plus evidence of the apprentice demonstrating insight into their own development afforded by the MSF exercises and highlighted in the reflective self-assessment piece (written/audio/video or where other format is used, it must be comprehensible by the assessor).

In relation to all three elements of the EPA, the AO will be responsible for developing the essential tools to assess the apprentice in a consistent and standardised way including:

- standardised question schedules for discussion included in all elements
- specialism specific lists of routine tasks to be observed for selection by the assessor for VCO
- bank of generic situational scenarios plus guidance for marking
- apprentice response worksheet for PPT element
- assessment matrix to record full occupational competency on every domain of the Standard and marking guidance to ensure consistency and reliability
- assessor reporting template for rationale of grading for each element and final grading

The same suitably trained specialism competent assessor should undertake assessment of all three elements of the EPA. This is important, as it will allow the assessor to fully evaluate the apprentice using the range of methods described, providing the evidence to demonstrate that the apprentice meets the Standard and enabling the assessor to determine the final grading.

The Assessment Organisation offering the EPA must be registered on the Skills Funding Agency's Register of Apprentice Assessment Organisations (RoAAO). In accordance with the requirements for entry to this Register, assessors provided by the RoAAO must display recent experience and knowledge of the specific specialism they are to assess.

Assessors must have a recognised professional qualification in the specialist area that they are to assess and/or registration with a professional body or the Academy of Healthcare Science, or the regulator for healthcare science (Health and Care Professions Council) and a minimum of 1 year of practise-based experience in a healthcare setting, such as the NHS, as well as an understanding of and skills in assessment. Assessment skills can be evidenced through a minimum of 1 years' experience of work-based assessment or by holding a recommended qualification for assessors.

The range of healthcare science specialisms are as shown in the table below (as provided by the

Academy for Healthcare Science).

Healthcare Science Specialisms and Scientific Services

Life Sciences

- Analytical Toxicology
- Anatomical pathology
- Blood transfusion science/transplantation
- Clinical biochemistry including paediatric metabolic biochemistry
- Clinical genetics/Genetic Science
- Clinical embryology & Reproductive Science
- Clinical immunology
- Cytopathology including cervical cytology
- Electron microscopy
- External quality assurance
- Haematology
- Haemostasis and thrombosis
- Clinical Immunology
- Histocompatibility & immunogenetics
- Histopathology
- Microbiology
- Molecular pathology of acquired disease
- Phlebotomy
- Tissue banking

Physiological Sciences

- Audiology
- Autonomic neurovascular function
- Cardiac physiology
- Clinical perfusion science
- Critical care science
- Gastrointestinal physiology
- Neurophysiology
- Ophthalmic and vision science
- Respiratory physiology
- Urodynamic science
- Vascular science

Clinical Bioinformatics including

- Genomics
- Physical Sciences
- Health Informatics Science
- Pathology
- Physiological Informatics

Physical Sciences and Biomedical Engineering

- Biomechanical engineering
- Clinical measurement and Development
- Clinical Pharmaceutical Science
- Decontamination Science
- Diagnostic radiology & MR physics
- Equipment management & clinical engineering
- Medical electronics and instrumentation
- Medical engineering design
- Clinical photography
- Nuclear medicine
- Radiation protection and monitoring
- Radiotherapy physics
- Reconstructive Science
- Rehabilitation engineering
- Renal dialysis technology
- Ultrasound and non-ionising radiation

Many of these specialisms though small in workforce numbers provide highly specialist services. These specialisms are within the health and social care system in the UK inclusive of the NHS, Public Health England and the NHS Blood & Transplant service.

End Point – final judgement

The final judgement about whether the apprentice has passed the EPA and its grading will be made by the independent EPA assessor using the guidance provided below:

- all three parts of the EPA must be undertaken by the apprentice, each of which is equally weighted;
- the assessor will award the grade for each EPA element based on the assessment outcomes (evidenced by the assessment tools to be developed by the AO) and determine the overall grade of Distinction, Merit, Pass or Fail based on the table and criteria shown in the End Point Grading section.

Independence

The Assessment Organisation must ensure that assessors selected to assess individual apprentices are fully independent of that apprentice. They should not have had any involvement with the recruitment and on-programme training or assessment of the apprentice.

End-point – Summary of roles and responsibilities	
Assessor	Role
<i>Employer</i>	<ul style="list-style-type: none"> • Selects the Assessment Organisation to administer the EPA • Together with the apprentice, determines when the apprentice is ready to be put forward for the EPA
<i>Training provider</i>	<ul style="list-style-type: none"> • Works in partnership with the employer and selected Assessment Organisation to ensure i. that the apprentice is able to undertake all three elements of the EPA, including gathering the evidence of development and achievement in a suitable format, such as in a portfolio; and ii. facilitates the EPA by providing a suitable environment for the Professional Discussion, observation of the selected tasks for the VCO element and access to the PPT element. • Provides regular reports of the apprentice's progress to the employer to enable them to determine the readiness and timeframe for the apprentice's EPA • Provides any additional support needed to help the apprentice achieve their learning outcomes and prepare for all elements of the EPA
<i>Assessment organisation</i>	<ul style="list-style-type: none"> • Must be on the SFA's Register of Apprentice Assessment Organisations (RoAAO) • Devises/administers the EPA according to the EPA plan • Recruits sufficient independent assessors to meet the demand for the EPA in each specialism • Ensures assessors have a recognised professional qualification gained through a formal training or equivalence route in the specialist area that they are to assess or registration with the relevant professional body and/or regulatory authority and a minimum of 1 year of practise based experience in a healthcare setting, such as the NHS, as well as the formal demonstration of an understanding of and skills in assessment, either through a minimum of 1 year of experience of work-based assessment or by holding a recommended qualification for assessors.
<i>Independent Assessor</i>	<ul style="list-style-type: none"> • Holds a professional qualification in the specialism in which they are to undertake the EPA or registration with the relevant professional body and/or regulatory authority as well as demonstrate assessment skills and understanding as described above • Undertakes the assessment of the 3 elements of the EPA outlined in this plan • Makes the decision on the grade of each EPA element • Determines the decision on the final grade based on the guidance provided in this plan • Provides a report on their assessment of the apprentice and

	rationale for their decision on the final grade
Quality Assurance – internal	
<p>The Assessment Organisation must be on the Register of Apprentice Assessment Organisations (RoAAO). The Assessment Organisation will implement the QA processes and procedures required for acceptance on the RoAAO and by the Academy for Healthcare Science (AHCS – see below), which will provide external quality assurance for the EPA. The AHCS will ensure Assessment Organisations offering the EPA have standardised processes and practice in order to ensure consistency across AOs. For example, all AOs will be required to host training events for their independent assessors annually and monitor grading decisions to ensure consistency and transparency across Independent Assessors, underpinned by a schedule of regular standardisation meetings between verifiers and assessors to ensure that outcome decisions are valid, fair, safe, reliable and equitable. In addition, there will be a schedule of regular meetings between the AO and the AHCS; an accessible process for dealing fairly and equitably with complaints and appeals; an agreed record keeping procedure; an evaluation and improvement procedure and any other processes, systems and procedures designed to ensure and document the quality of the delivery of the EPA by the AO, including the demonstration that the AO is open to obtaining advice from recognised healthcare science specialists and organisations such as healthcare science professional bodies or the National School of Healthcare Science.</p>	
Quality Assurance – external	
<p>The Academy for Healthcare Science (AHCS) will be responsible for the External Quality Assurance (EQA) of the EPA. The AHCS is the overarching body for the whole of the healthcare science profession, working with and helping to support individual specialist professional societies. It therefore meets the Trailblazer requirement for providing EQA of the process as a professional body. Moreover, the AHCS was established by the UK Health Departments and the Healthcare Science professional bodies to regulate the HCS workforce and quality assure its education and training. Apprentices who achieve the Standard will be eligible to apply to the AHCS’s Professional Standards Authority [PSA] accredited register of trained Healthcare Science Assistants, although there will be no requirement for them to do so.</p>	

End-point - Grading

If the apprentice is graded fail for any element this will result in an overall grade of Fail.
The successful apprentice receives an overall grade of Pass, Merit or Distinction. The grade is derived from the components of the end-point assessment using the following table:

Element Grade			Overall Grade for the EPA
Element 1 Vocational Competence Observation	Element 2 Professional Practice Test	Element 3 Professional Discussion	
Pass	Pass	Pass	Pass
Pass	Pass	Merit	Pass
Pass	Pass	Distinction	Merit
Pass	Merit	Pass	Pass
Pass	Merit	Merit	Merit
Pass	Merit	Distinction	Merit
Pass	Distinction	Pass	Merit
Pass	Distinction	Merit	Merit
Pass	Distinction	Distinction	Distinction

Grading criteria provided below should be used to determine the end-point grading:

Fail (applicable to all EPA elements)

The apprentice has not demonstrated sufficient understanding, skill, knowledge or competence in one or more elements of the assessment, and is not yet operating at the level of a Healthcare Science Assistant, or has not yet developed the behaviours specified in the Standards for a Healthcare Science Assistant.

Pass (applicable to all EPA elements)

Across all elements of the assessment, the apprentice has demonstrated understanding, knowledge, skill, competence and behaviours that are commensurate with those specified in the Standard for a Healthcare Science Assistant.

Merit

The apprentice has demonstrated a good application of understanding, knowledge and skills and developed behaviours commensurate with the Standard. In addition, they have demonstrated some insight into their personal development as a result of reflecting on feedback. They have shown both good competence in the performance of work-based tasks and a good understanding of the personal and professional behaviours that are required in workplaces, having received a rating of 'distinction' in at least **two** of the eight professional practice scenarios.

Distinction

The apprentice has demonstrated an excellent application of the understanding, knowledge and skills and developed behaviours commensurate with the Standard. In addition, they have demonstrated excellent insight into their personal development throughout their programme as a result of reflecting on feedback. They have shown both outstanding competence in the performance of work-based tasks and excellent understanding of the personal and professional behaviours that are required in the workplace to ensure optimal outcomes for patients, having received a rating of 'distinction' in **four** or more of the eight professional.

The independent assessor will decide the final grade for the EPA based on the guidance provided above.

Implementation

As the apprentice is required to demonstrate the skills, understanding and behaviours described in the Standard the recommended EPA can be undertaken in any healthcare science employment setting, large or small, public or private.

Assessment of all of the elements of the EPA can be carried out in the workplace with prior agreement with the employer, or their nominated training provider (thus keeping costs to a minimum). Given the breadth and depth of the EPA and the importance of ensuring that these HCS apprentices are fit for practice in clinical scientific settings, including understanding the impact of their work on patients, it is envisaged that the assessment proportion of the apprenticeship will be 20% of allocated funding to this apprenticeship programme.

It is expected that AOs will recruit healthcare science specialism specific assessors as recommended with the professional qualifications and assessment experience described above, utilising the existing healthcare science workforce which is nationally distributed in service organisations such as the NHS. The AO quality assures the EPA by developing the tools for use in assessing the EPA elements and ensuring consistency and standardisation across assessors in any employment setting.

The Academy for Healthcare Science (AHCS) will maintain a register of HCSAs who have successfully completed this Trailblazer Apprenticeship programme.

The expected uptake of this apprenticeship programme is 1500 per year.