

End-point assessment plan for **Diagnostic Radiographer (Integrated Degree) apprenticeship standard**

Apprenticeship standard number	Level of this end point assessment (EPA)	Integrated
ST0619	6	Integrated degree apprenticeship

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Introduction and overview

This document sets out the requirements for end-point assessment (EPA) for the **Diagnostic Radiographer (Integrated Degree)** apprenticeship standard. It is for end-point assessment organisations (EPAOs) who need to know how EPA for this apprenticeship must operate. It will also be of interest to **Diagnostic Radiographer (Integrated Degree)** apprentices, their employers and training providers.

Full time apprentices will typically spend **36** months on-programme (before the gateway) working towards the occupational standard, with a minimum of 20% off-the-job training. All apprentices will spend a minimum of 12 months on-programme.

The EPA period should only start, and the EPA be arranged, once the employer is satisfied that the apprentice is consistently working at or above the level set out in the occupational standard, all of the pre-requisite gateway requirements for EPA have been met and that they can be evidenced to an EPAO.

All pre-requisites for EPA assessment methods must also be complete and available for the assessor as necessary.

As a gateway requirement and prior to taking the EPA, apprentices must complete all approved qualifications mandated in the **Diagnostic Radiographer (Integrated Degree)** standard.

These are:

- Achievement of 340 credits of the BSC(Hons) integrated degree in Diagnostic Radiography or 160 credits for the MSc in Diagnostic Radiography, from the on-programme apprenticeship, formally confirmed prior to the gateway progression. (The final 20 credits of the BSC(Hons) degree and the MSc, will be attributed to the end-point assessment).
- Achievement of the knowledge, skills and behaviours in the Diagnostic Radiographer degree apprenticeship standard.

For level 3 apprenticeships and above apprentices without English and mathematics at level 2 must achieve level 2 prior to taking their EPA.

The EPA must be completed within an EPA period lasting a maximum of **3 month(s)**, beginning when the apprentice has passed the EPA gateway.

The EPA consists of **3** discrete assessment methods.

The individual assessment methods will have the following grades:

Assessment method 1: Demonstration of Professional Practice

- Fail
- Pass

Assessment method 2: Professional Discussion

- Fail
- Pass
- Distinction

Assessment method 3: Multiple-Choice Questionnaire

- Fail
- Pass
- Distinction

Performance in the EPA will determine the overall apprenticeship standard and grade of:

- Fail
- Pass
- Distinction

EPA summary table

On-programme (typically 36 months)	Training to develop the occupation standard's knowledge, skills and behaviours.
End-point Assessment Gateway	<ul style="list-style-type: none"> • Employer is satisfied the apprentice is consistently working at, or above, the level of the occupational standard. • English/mathematics Level 2 <p>Apprentices must complete:</p> <ul style="list-style-type: none"> • Achievement of 340 credits of the BSC(Hons) integrated degree in Diagnostic Radiography or 160 credits for the MSc in Diagnostic Radiography, from the on-programme apprenticeship, formally confirmed prior to the gateway progression. (The final 20 credits of the BSC(Hons) degree and the MSc, will be attributed to the end-point assessment). • Achievement of the knowledge, skills and behaviours in the Diagnostic Radiographer degree apprenticeship standard
End Point Assessment (which would typically take 3 months)	<p>Assessment Method 1: Demonstration of Professional Practice</p> <p>With the following grades:</p> <ul style="list-style-type: none"> • Fail • Pass <p>Assessment Method 2: Professional Discussion</p> <p>With the following grades:</p> <ul style="list-style-type: none"> • Fail • Pass • Distinction <p>Assessment Method 3: Multiple-Choice Questionnaire</p> <p>With the following grades:</p> <ul style="list-style-type: none"> • Fail • Pass • Distinction
Professional recognition	Aligns with recognition by:

- Health and Care Professions Council
- Society and College of Radiographers

Length of end-point assessment period:

The EPA must be completed within an EPA period lasting a maximum of **3 month(s)**, beginning when the apprentice has passed the EPA gateway.

Order of assessment methods

The assessment methods can be delivered in any order.

Gateway

The EPA period should only start once the employer is satisfied that the apprentice is consistently working at or above the level set out in the occupational standard, that is to say they have achieved occupational competence. In making this decision, the employer may take advice from the apprentice's training provider(s), but the decision must ultimately be made solely by the employer.

In addition to the employer's confirmation that the apprentice is working at or above the level in the occupational standard, the apprentice must have completed the following gateway requirements prior to beginning EPA:

English and mathematics at level 2.

- Achievement of 340 credits of the BSC(Hons) integrated degree in Diagnostic Radiography or 160 credits for the MSc in Diagnostic Radiography, from the on-programme apprenticeship, formally confirmed prior to the gateway progression. (The final 20 credits of the BSC(Hons) degree and the MSc, will be attributed to the end-point assessment).
- Achievement of the knowledge, skills and behaviours in the Diagnostic Radiographer degree apprenticeship standard.

For those with an education, health and care plan or a legacy statement the apprenticeships English and mathematics minimum requirement is Entry Level 3 and British Sign Language qualification are an alternative to English qualifications for whom this is their primary language.

For **Demonstration of Professional Practice:**

- no specific requirements

For **Professional Discussion:**

- no specific requirements

For **Multiple-Choice Questionnaire:**

- no specific requirements

Assessment methods

Assessment Method 1: Demonstration of Professional Practice

Overview

Apprentices must be observed by an independent assessor completing 2 practical demonstration(s) in which they will demonstrate the KSBs assigned to this assessment method. The end-point assessment organisation will arrange for the observation to take place, in consultation with the employer. Practical demonstrations must be carried out over a maximum total assessment time of 1 hour(s). The demonstrations may not be split, other than to allow comfort breaks as necessary. **The assessor has the discretion to increase the time of the practical demonstration by up to 10% to allow the apprentice to complete the last task that is part of this element of the EPA.**

The independent assessor may conduct and observe only one apprentice during this assessment method.

The rationale for this assessment method is:

A demonstration of professional practice has been, utilising a full body phantom, has been chosen to ensure consistency, reduce variables in situations for each apprentice, and is a cost-effective way to deliver a number of assessments. An observation of practice in a live setting was not selected, as this will not cover the breadth and depth of practice required. Instead a demonstration of practice avoids situations where individuals are not available on the day, do not give consent to being observed with the apprentice and other issues around confidentiality. A simulated demonstration of professional practice will provide evidence of the apprentices' knowledge, skills and behaviours.

Delivery

Apprentices must be provided with both written and verbal instructions on the tasks they must complete, including the timescales they are working to.

The practical demonstration should be conducted in the following way to take account of the occupational context in which the apprentice operates:

Station 1: Demonstration of Simulated Practice

This demonstration of practice should take a maximum of 20 minutes and be recorded with audio-visual equipment.

Station 2: Image Viewing

This demonstration of practice should take a maximum of 40 minutes and be audio recorded.

The following activities **MUST** be observed during the practical demonstration, that is a practical demonstration without these tasks would seriously hamper the opportunity for the apprentice to demonstrate occupational competence in the KSBs assigned to this assessment method.

Station 1: Demonstration of Simulated Practice

The apprentice will be observed by an independent assessor, undertaking a single projection as part of a radiography imaging process, using a full body phantom. This will be an end-to-end process from an imaging referral to completion and storage of an image in a controlled simulated environment. Apprentices will be expected to verbalise imaging decisions throughout the practical demonstration.

The simulated demonstration must include:

- Assessment of referral
- Preparation and management of room and equipment
- Communication and management of patient needs
- Undertaking of imaging
- Appropriate exposure selection
- Image assessment

Station 2: Image Viewing

The apprentice will be observed by an independent assessor viewing 6 cases selected from a bank of cases provided to them by the independent assessor, which must include:

- 2 cases specifically related to the assessment of image quality of the axial and appendicular skeleton
- 2 cases related to common skeletal trauma and pathology/normal variants
- CT head. Case to include a common pathology
- Quality control test image (eg beam alignment and collimator test)

For each case, the apprentice must:

- Review the associated request forms for justification/authorisation
- Verbally evaluate the cases to the independent assessor
- Decide what actions need to be undertaken following the technical and clinical evaluation of the case

EPAOs will create and set open questions to assess related underpinning knowledge, skills and behaviours. The questions can be asked **both during and after the practical demonstration**. The independent assessor must ask up to **10** questions. Questioning must be completed within the total time allowed for the practical demonstration.

There may be breaks during the practical demonstration to allow the apprentice to move from one location to another and for meal breaks.

KSBs observed and answers to questions must be documented by the independent assessor.

The independent assessor will make all grading decisions.

Questions and resources development

EPAOs will create and set open questions to assess related underpinning knowledge, skills and behaviours.

EPAOs will produce specifications to outline in detail how the practical demonstrations will operate, what it will cover and what should be looked for. It is recommended that this be done in consultation with employers. EPAOs should put measures and procedures in place to maintain the security and confidentiality of their specifications if employers are consulted. Specifications must be standardised by the EPAO.

EPAOs must develop 'practical specification banks' of sufficient size to prevent predictability and review them regularly (and at least once a year) to ensure they, and the specifications they contain, are fit for

purpose. The specifications, including questions relating to underpinning knowledge, skills and behaviours must be varied, yet allow assessment of the relevant KSBs.

Venue

Practical demonstrations must be conducted in one of the following locations:

- a suitable venue selected by the EPAO (e.g. a training provider's premises or another employer's premises)

The venue must:

- offer a designated space, in a quiet room that is free from distractions
- allow for the safe set-up of an X-ray room and controlled area
- have sufficient room to set up image viewing stations
- have appropriate lighting
- offer a separate room so that apprentices waiting to do their demonstration of practice are not in contact with those who have finished, to avoid conferring

Support material

EPAOs will produce the following material to support this assessment method:

Station 1: Demonstration of Simulated Practice

- X-ray room
- Full body phantom
- Audio-visual recording equipment
- Proforma for recording apprentices' demonstration of practice to include, for example:
 - Evaluation of referral
 - Radiation safety
 - Patient care/communication needs
 - Preparation and management of room and equipment
 - Patient positioning
 - Exposure selection
 - Image evaluation
- Bank of questions
- Grading matrix for the independent assessor to use at station 1

Station 2: Image Viewing

- Imaging viewing stations set up as reporting pods eg appropriate lighting, high resolution work stations
- Bank of images (medical quality)
- Bank of referrals
- Proforma for recording apprentices' responses, to include:
 - Alpha numeric correct
 - Area of examination correct
 - Collimation appropriate
 - Anatomical marker/annotation present
 - Exposure appropriate
 - Errors/artefacts present
 - Repeat imaging necessary

- Pathology present
- Audio recording equipment
- Bank of questions
- Grading matrix for the independent assessor to use at station 2

Assessment Method 2: Professional Discussion

Overview

This assessment will take the form of a **professional discussion**, which must be appropriately structured to draw out the best of the apprentice's competence and excellence and cover the KSBs assigned to this assessment method. It will involve the questions that will focus on **analysis of given scenarios, coverage of prior learning or activity, problem solving.**

The **professional discussion** can take place in any of the following:

- a suitable venue selected by the EPAO (e.g. a training provider's premises)

The rationale for this assessment method is:

A professional discussion ensures that the apprentice can demonstrate the application of evidence to professional practice and their own continuing professional development.

An observation of practice in a live setting was not chosen as it is difficult to ensure that the apprentice will be afforded the opportunity at the time of the assessment to demonstrate the breadth and depth of practice that will be required to be evidenced to meet the KSBs allocated to this assessment method.

Delivery

The independent assessors will conduct and assess the **professional discussion**.

The **professional discussion** must last for 60 minutes. The independent assessor has the discretion to increase the time of the professional discussion by up to 10% to allow the apprentice to complete their last answer. Further time may be granted for apprentices with appropriate needs, for example where signing services are required.

During this method, the independent assessor must combine questions from the EPAO's question bank and ask follow-up questions as defined by the EPAO.

The **professional discussion** will be conducted as set out here:

This assessment method will comprise 3 areas where the apprentice will undertake a 1:1 face-to-face professional discussion with an independent assessor for all 3 areas, which are:

Area 1 - Adverse/challenging scenario

Area 2 – Service and personal improvement

Area 3 – Professional standards, statutory/regulatory requirements

The independent assessor must guide the professional discussion using questions to ensure the apprentice has the best opportunity to demonstrate fulfilment of the diagnostic radiographer apprenticeship degree standard knowledge, skills and behaviours.

During the professional discussion, the independent assessor will generate questions themselves, covering gaps in the discussion using the discussion areas outlined by the EPAO.

The professional discussion must last for 50 minutes (+/-10%), plus 10 minutes preparation time for the apprentice prior to the discussion start time. The professional discussion should be audio-recorded.

Preparation for Area 1 (Adverse/challenging scenario)

A scenario on an adverse or challenging situation of no more than 300 words will be provided to the apprentice from a bank of scenarios provided by the EPAO.

The apprentice will:

- review a scenario of no more than 300 words
- have 10 minutes to review and make notes

The professional discussion will assess KSBs mapped to the following discussion areas:

Area 1 – Adverse/challenging scenario – how the apprentice manages an adverse or challenging situation.

Examples for illustrative purposes include:

- A situation out of hours where different clinical demands are made at once that require prioritisation and demonstration of clinical decision making, communication and practical skills
- A clinical emergency situation, where a student is supporting the apprentice and the patient's relatives are witnesses and are distressed
- A safeguarding situation
- Dealing with an aggressive patient

Area 2 – Service and personal improvement – how the apprentice contributes to service improvement through governance and how they ensure their own personal development.

Examples for illustrative purposes include:

- Giving constructive feedback to junior members of staff
- Supervising others
- Impact of assistant practitioner role on diagnostic radiographers
- How audit cycles contribute to service improvement

Area 3 – Professional standards, statutory/regulatory requirements of evidence-based practice – how the apprentice determines and provides care and support within their scope of practice using evidence-based practice.

Examples for illustrative purposes include:

- Application of professional code of conduct
- Impact of their work in imaging on national policies, targets
- How they have applied research to their practice

The apprentice must evidence how they have carried out the KSBs assigned to the professional discussion assessment. Please see grading section for the mapped KSBs.

The independent assessor must use the assessment tools and procedures that are set by the EPAO to record the **professional discussion**.

The independent assessor will make all grading decisions.

Venue

The **professional discussion** should take place in a quiet room, free from distractions and influence.

Other relevant information

A structured specification and question and scenario bank must be developed by EPAOs. The 'question/scenario bank' must be of sufficient size to prevent predictability and review it regularly (and at least once a year) to ensure that it, and its content, are fit for purpose. The specifications, including questions relating to the underpinning knowledge, skills and behaviours, must be varied yet allow assessment of the relevant KSBs. The EPAO will provide a discussion template for the independent assessor to record assessment decisions.

EPAOs will produce the following material to support this assessment method:

For the Professional Discussion, the EPAO will provide:

- A bank of written scenarios of no more than 300 words each
- A structured discussion template for the independent assessor to use during the professional discussion
- The discussion areas mapped to the KSBs
- Grading criteria for the independent assessor to use during the professional discussion
- Audio recording equipment

Assessment Method 3: Multiple-Choice Questionnaire

Overview

The rationale for this assessment method is:

This method of assessment will test the apprentices' ability with regard to their understanding and application of knowledge across a range of subject areas covered within the standard and is a reliable form of assessment.

Test Format

The test can be:

- computer based
- paper based

It will consist of 20 questions in which the apprentice has to select the one correct answer from a selection of 5 options by selecting a single checkbox as the correct answer.

Each correct answer will score 1 mark. Each incorrect answer will score 0 marks.

These questions will consist of 20 closed single response questions covering:

- Clinical and information governance (2 questions)
- Patient observations (1 question)
- Contrast media (1 question)
- Incident reporting (1 question)
- Record keeping (1 question)
- Scientific principles (4 questions)
- Anatomy (4 questions)

- Physiology (4 questions)
- Health and safety, including patient handling (2 questions)

Test administration

Apprentices must have a maximum of 40 minutes to complete the test.

The test is **closed book** which means that the apprentice **cannot** refer to reference books or materials.

The following equipment is permitted during the test:

- Calculator

Apprentices must take the test in a suitably controlled environment that is a quiet space, free of distractions and influence, in the presence of an invigilator. The invigilator may be **the independent assessor**. The EPAO is required to have an invigilation policy that will set out how the test/examination is to be carried out. This will include specifying the most appropriate ratio of apprentices to invigilators to best take into account the setting and security required in administering the test/examination.

The EPAO is responsible for ensuring the security of testing they administer to ensure the test remains valid and reliable (this includes any arrangements made using online tools). The EPAO is responsible for verifying the validity of the identity of the person taking the test.

This assessment method will be carried out as follows:

The independent assessor will invigilate the multiple-choice questionnaire assessment.

The EPAO must verify the suitability of the venue for taking the test and the identity of the person taking the test.

Marking

Tests must be marked by independent assessors or markers employed by the EPAO following a marking guide produced by the EPAO. **Alternatively, marking by computer is permissible where question types allow this, to improve marking reliability.**

Any incorrect or missing answers must be assigned 0 marks.

Question and resources development

Questions must be written by EPAOs and must be relevant to the occupation and employer settings. **It is recommended that this be done in consultation with employers of this occupation. EPAOs should also maintain the security and confidentiality of their questions when consulting employers.** EPAOs must develop 'question banks' of sufficient size to prevent predictability and review them regularly (and at least once a year) to ensure they, and the questions they contain, are fit for purpose. **Predictability of questions may also be reduced by the assessment method will comprise 20 randomised multiple-choice questions from a pool of questions generated by the EPAO.**

Required supporting material

As a minimum EPAOs will produce the following material to support this method:

- a test specification
- sample tests and mark schemes
- live tests and mark schemes
- analysis reports which show areas of weakness for completed tests/exams and an invigilation policy

Weighting of assessment methods

e.g. Assessment method 1 Demonstration of Professional Practice 40% Assessment method 2 Professional Discussion 30% Assessment method 3 Multiple-Choice Questionnaire 30%

Grading

Assessment method 1: Demonstration of Professional Practice

KSBs	Fail	Pass
K3 K5 K7 K8 K10 K13 K14 K22 S5 S7 S8 S9 S11 S14 S15 S18 B2	<p>The apprentice does not meet the pass criteria</p>	<p>To achieve a pass in the demonstration of professional practice (station 1), the apprentice will:</p> <ol style="list-style-type: none"> 1. Demonstrate how they use the information on the imaging referral to justify and authorise the request. (K5, K7, K8, S5) 2. Demonstrate how they prepare the room and manipulate the equipment prior to the examination. (K7, K8, S7, S14) 3. Demonstrate clear communication with the patient and modify actions according to patient's needs. (S7, S11, B2) 4. Demonstrate the use of correct radiographic techniques, the safe manipulation of patients and equipment and the use of appropriate radiation safety techniques. (K8, K10, S7, S14, S15, B2) 5. Select the appropriate exposure factor for the relevant radiographic technique. (K8, K13, S15) 6. Evaluate the image to assess the diagnostic quality in relation to the initial referral and take appropriate action. (K10, K22, S9) 7. Evaluate the image quality of the axial and appendicular skeleton images in relation to the referral. (K5, K13, S9) 8. Appraise skeletal images for common pathology, normal variants or trauma. (K3, S8) 9. Appraise CT head image for quality and for a common pathology. (K3, S8) 10. Demonstrate an ability to judge appropriate action following the clinical and technical evaluation of the cases. (K10, K14) 11. Analyse a quality control test image to determine follow up action. (K3, S18)

Assessment method 2: Professional Discussion

KSBs	Fail	Pass	Distinction
K1 K2 K6 K15 K16 K17 K18 K20 K21 K22 K23 K24 K25 S2 S3 S4 S6 S13 S16 S17 S19 B1 B3 B4 B5 B6 B7	<p>The apprentice does not meet the pass criteria</p>	<p>To achieve a pass, the apprentice will:</p> <ol style="list-style-type: none"> Describe how they will assess competing demands and determine a reasoned course of action. (S2, S6, B1) Evidence how they would modify their communication with patients, their families/carers, colleagues and other staff according to individual needs and situations. (K6, K15, K16, S4, B3) Evidence the principles of patient confidentiality and data protection to their practice as a diagnostic radiographer. (K18, S13) Evidence how they supervise others, give and receive constructive feedback and facilitate learning. (K20, K21, S3, S17, B5, B6) Explain the importance of team work in the delivery of diagnostic radiography. (S3) Explain the significance of audit cycles and their impact on service improvement. (K23, B6) Describe how current trends in healthcare and legislation influence local audit within diagnostic radiography and inform evidence-based practice. (K24) Give an example of how they have worked in line with 	<p>To achieve a distinction, the apprentice will achieve the pass criteria, and in addition will:</p> <ol style="list-style-type: none"> Critically evaluate, appraise and synthesise evidence across two or more KSBs and demonstrate the application of them in their practice as a diagnostic radiographer within the framework of clinical accountability and responsibility. (K1, K2, K16, K17, S2, S4, S16, B1, B4) Explore and evaluate a range of solutions and options and select the solution and/or option that best informs their practice and meets patients' needs for possible implementation. (K6, K23, K25, S6, S19) Articulate a critical self-awareness of their personal development and critically discuss an example of where they have reflected on their own practice in relation to evidence-based practice, their impact on those under their supervision and the quality of the delivery of diagnostic services. (K20, K21, K24, S17, B5, B6)

		<p>professional standards; statutory and regulatory requirements; local policies and procedures. (K1, K2, S16, B7)</p> <p>9. Evidence the legal, ethical and professional principles associated with equality, diversity and safeguarding in relation to their practice. (K17, B4)</p> <p>10. Give an example of how research has informed evidence-based practice. (K25, S19)</p>	
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Assessment method 3: Multiple-Choice Questionnaire

The following grade boundaries apply to the test:

KSB	Grade	Minimum score (%)	Maximum score (%)
K3, K4, K9, K11, K12 K19, K26, K27	Distinction	70	100
	Pass	40	69
S1, S10, S12	Fail	0	39

Overall EPA grading

A pass in all three assessment methods is needed for a pass for the EPA overall.

Grades from individual assessment methods should be combined in the following way to determine the grade of the EPA as a whole:

Assessment method 1	Assessment method 2	Assessment method 3	Overall grading
Fail	Fail	Fail	Fail
Fail	Fail	Pass	Fail
Fail	Pass	Fail	Fail

Fail	Distinction	Pass	Fail
Fail	Distinction	Fail	Fail
Pass	Fail	Fail	Fail
Pass	Pass	Pass	Pass
Fail	Pass	Pass	Fail
Pass	Distinction	Fail	Fail
Pass	Distinction	Pass	Pass
Fail	Fail	Distinction	Fail
Fail	Pass	Distinction	Fail
Pass	Fail	Distinction	Fail
Pass	Pass	Distinction	Pass
Pass	Distinction	Distinction	Distinction
Fail	Distinction	Distinction	Fail

Roles and responsibilities

Role	Responsibility
Apprentice	<ul style="list-style-type: none"> • participate in development opportunities to improve their knowledge skills and behaviours as outlined in the standard • meet all gateway requirements when advised by the employer • understand the purpose and importance of EPA and undertake EPA
Employer	<ul style="list-style-type: none"> • support the apprentice to achieve the KSBs outlined in the standard to their best ability • determines when the apprentice is working at or above the level outlined in the standard and is ready for EPA • select the EPAO • confirm all EPA gateway requirements have been met • confirm arrangements with EPAO for the EPA (who, when, where) in a timely manner • ensure apprentice is well prepared for the EPA
EPAO	<p>As a minimum EPAOs should:</p> <ul style="list-style-type: none"> • understand the occupational role • appoint administrators/invigilators and markers to administer/invigate and mark the EPA • provide training and CPD to the independent assessors they employ to undertake the EPA • provide adequate information, advice and guidance documentation to enable apprentices, employers and providers to prepare for the EPA • deliver the end-point assessment outlined in this EPA plan in a timely manner • prepare and provide all required material and resources required for delivery of the EPA in-line with best practices • use appropriate assessment recording documentation to ensure a clear and auditable mechanism for providing assessment decision feedback to the apprentice • ***have no direct connection with the apprentice, their employer or training provider i.e. there must be no conflict of interest • maintain robust internal quality assurance (IQA) procedures and processes, and conducts these on a regular basis • conform to the requirements of the nominated external quality assurance body • organise standardisation events and activities in accordance with this plan's IQA section • organise and conduct moderation of independent assessors' marking in accordance with this plan • have, and operate, an appeals process • arrange for certification with the relevant training provider • provide feedback to the apprentice

Independent assessor	<p>As a minimum an Independent assessor should:</p> <ul style="list-style-type: none"> • understand the standard and assessment plan • deliver the end-point assessment in-line with the EPA plan • comply to the IQA requirements of the EPAO • be independent of the apprentice, their employer and training provider(s) i.e. there must be no conflict of interest • satisfy the criteria outlined in this EPA plan • have had verifiable training from their EPAO in terms of good assessment practice, operating the assessment tools and grading • have the capability to assess the apprentice at this level • attend the required number of EPAOs standardisation and training events (as defined in the IQA section)
Training provider	<p>As a minimum the training provider should:</p> <ul style="list-style-type: none"> • work with the employer to ensure that the apprentice is given the opportunities to develop the KSBs outlined in the standard and monitor their progress during the on-programme period • advise the employer, upon request, on the apprentice's readiness for EPA prior to the gateway <p>• Plays no part in the assessment of the EPA itself</p>

Internal Quality Assurance (IQA)

Internal quality assurance refers to the requirements that EPA organisations must have in place to ensure consistent (reliable) and accurate (valid) assessment decisions. EPA organisations for this EPA must:

- appoint independent assessors who have knowledge of the following occupational areas:
An HCPC registered diagnostic radiographer with recent relevant experience.
- appoint independent assessors who have recent relevant experience of the occupation/sector **at least one level above the apprentice** gained in the last **two years** or significant experience of the occupation/sector.
- **appoint independent assessors who are members of relevant professional bodies.**
- **appoint independent assessors who are competent to deliver the end-point assessment and who meet the following minimum requirements:**
 - **Minimum of 2 years post qualification diagnostic radiography experience and meets the expectations of the HCPC standards of proficiency, performance and ethics**
- provide training for independent assessors in terms of good assessment practice, operating the assessment tools and grading
- have robust quality assurance systems and procedures that support fair, reliable and consistent assessment across the organisation and over time.
- operate induction training and standardisation events for independent assessors when they begin working for the EPAO on this standard and before they deliver an updated assessment method for the first time

External Quality Assurance (EQA)

The external quality assurance provider for this assessment plan is named on the Institute for Apprenticeships' website.

Re-sits and re-takes

Apprentices who fail one or more assessment method will be offered the opportunity to take a re-sit or a re-take. A re-sit does not require further learning, whereas a re-take does.

Apprentices should have a supportive action plan to prepare for the re-sit or a re-take. The apprentice's employer will need to agree that either a re-sit or re-take is an appropriate course of action.

An apprentice who fails an assessment method, and therefore the EPA in the first instance, will be required to re-sit **any failed assessment methods only**.

Any assessment method re-sit or re-take must be taken during the maximum EPA period, otherwise the entire EPA must be taken again, unless in the opinion of the EPAO exceptional circumstances apply outside the control of the apprentice or their employer.

Re-sits and re-takes are not offered to apprentices wishing to move from pass to distinction.

Where any assessment method has to be re-sat or re-taken, the apprentice will be awarded a maximum EPA grade of **pass**, unless the EPAO determines there are exceptional circumstances requiring a re-sit or re-take.

Affordability

Affordability of the EPA will be aided by using at least some of the following practice:

- assessing multiple apprentices simultaneously
- utilising HEI premises

Professional body recognition

This apprenticeship is designed to prepare successful apprentices to meet the requirements for registration as **Diagnostic Radiographer (Integrated Degree)** with the **Health and Care Professions Council and the Society and College of Radiographers**.

Reasonable adjustments

The EPAO must have in place clear and fair arrangements for making reasonable adjustments for this apprenticeship standard. This should include how an apprentice qualifies for Reasonable Adjustment and what Reasonable Adjustments will be made. The adjustments must maintain the validity, reliability and integrity of the assessment methods outlined in this assessment plan.

Mapping of knowledge, skills and behaviours (KSBs)

Assessment method 1: Demonstration of Professional Practice

Knowledge
K3 Knowledge and understanding of relevant anatomy, physiology and pathology, normal, normal variants and abnormal image appearances.
K5 Knowledge and understanding of local referral justification criteria and relative clinical urgency of clinical conditions, including signs, symptoms and potential consequences.
K7 Knowledge and understanding of the principles of radiobiological science, the associated risks and benefits and comparative radiation doses for different imaging protocols including different types of imaging in relation to appropriate authorisation of the justification of imaging requests.
K8 Knowledge and understanding of Ionising Radiation (Medical Exposures) Regulations and Ionising Radiation Regulations. Knowledge of Local Rules, local and national Diagnostic Reference Levels (DRLs) including appropriate associated Personal Protective Equipment (PPE), and pregnancy status.
K10 Knowledge of human anatomy and physiology to image the area of interest, using external bony landmarks and knowledge of the effects of adapting positioning on the resulting image.
K13 Knowledge of the physiological effects of exposure to Ionising Radiation and the correct use and manipulation of radiation exposures and associated radiation science in order to produce high quality images, whilst maintaining the lowest practicable radiation dose.
K14 Knowledge of the process for escalation of unexpected findings identified on images to ensure optimum patient care.
K22 Understanding of radiographic equipment in the context of how images are produced for both ionising and non-ionising radiation imaging methods and how images are appropriately shared and/or stored.

Skills
S5 Collate and record information from different sources and critically evaluate to make a logical, informed decision using this information, and communicate decisions appropriately and in a timely way.
S7 Use good radiographic techniques and modify as clinically appropriate. Have the technical ability to manipulate a range of equipment, whilst maintaining patient comfort and adequately communicate with patients and colleagues to ensure the safe movement of patients into imaging position. Use appropriate touch techniques to locate external bony landmarks.
S8 Recognise normal and abnormal image appearances and when to act upon them. Use abnormality alert systems such as a preliminary clinical evaluation.
S9 Assess image technical standard according to a recognised methodology.
S11 Respect and maintain patient privacy and dignity at all times in all environments, including emergency situations.

S14 Use appropriate Personal protective Equipment (PPE) for staff, patients and members of the public.
S15 Use radiation protection techniques safely and appropriately, including distraction/immobilisation techniques to effectively minimise overall radiation dose. Appropriate use of radiation dose software. Manipulate exposure factors according to patient condition to create a diagnostic image with the lowest practicable radiation dose.
S18 Use Quality Assurance tools/equipment, to analyse and interpret results and act upon them in a safe manner.

Behaviours
B2 Confident, flexible and adaptable within own scope of practice.

Assessment method 2: Professional Discussion

Knowledge
K1 Knows and understands local and national Imaging policies and procedures including patient pathways and the impact of imaging on patient care and treatment.
K2 Knowledge of Health and Care Professions Council Standards of Proficiency and Society and College of Radiographers Code of Conduct and professional scope of practice.
K6 Knowledge and understanding of different patient needs and rights including dignity, diversity and privacy, communication styles and clinical conditions e.g. dementia or learning disabilities.
K15 Knowledge of conflict resolution strategies.
K16 Knowledge of different methods of communication including verbal and non-verbal communication. Knowledge and understanding of the effect of own body language and attitude on others. Knowledge of active listening skills.
K17 Knowledge and understanding of the legal, ethical and professional principles associated with equality, diversity and safeguarding.
K18 Knowledge of patient confidentiality and awareness of responsibility to maintain it in line with ethical and legislative frameworks.
K20 Knowledge of different roles and scopes of practice for those under own supervision.
K21 Knowledge of different learning styles, assessment, group dynamics, learning theory, recognition of good and bad practice, delivering constructive feedback.
K22 Understanding of radiographic equipment in the context of how images are produced for both ionising and non-ionising radiation imaging methods and how images are appropriately shared and/or stored.
K23 Knowledge of the theory of the audit cycle, quality control tools / equipment, analysis of results and how to take appropriate action and the principles of service improvement.

K24 Knowledge of current trends in relevant legislation, the profession and wider healthcare, and an understanding of putting evidence-based practice into daily work.

K25 Knowledge of different research methodologies and how to critically analyse research.

Skills

S2 Manage time and resources and prioritise workload according to clinical needs.

S3 Build and sustain professional relationships and work independently, as part of the imaging team, as part of a multi-disciplinary team, and providing supervision as appropriate.

S4 Communicate appropriately with each individual patient, their families and carers, involving them in decision making, where appropriate, and the multi-disciplinary team adapting a style for each individual to provide holistic care, taking account of circumstances and environments.

S6 Critically assess a clinical or professional situation and respond accordingly eg raising concerns as appropriate

S13 Maintain data protection and patient confidentiality in clinical practice and complete relevant concise, factual reports and documentation.

S16 Adopt Imaging and organisational policies, procedures, protocols, guidance and legislation into the clinical environment under different circumstances and situations.

S17 Supervise, facilitate learning, motivate and share reasoned clinical judgement with others.

S19 Read and critically analyse research articles, utilise basic research skills and apply research findings to practice.

Behaviours

B1 Demonstrate a calm demeanour with empathy, compassion and underpinning emotional resilience to manage day-to-day pressures in unpredictable, emergency and distressing situations, e.g. patients in cardiac arrest, patients suffering life changing injuries and/or disease diagnosis.

B3 Demonstrate emotional intelligence.

B4 Act with professionalism, honesty, integrity and respect in all interactions. Maintain good character as outlined in their professional Code of Conduct and not bring their profession or organisation into disrepute.

B5 Reflect on own impact on others, take responsibility and be accountable for own actions. Sensitively challenge others and raise issues when appropriate.

B6 Actively reflect on own practice and accept and respond to constructive criticism. Be proactive in implementing improvements in order to improve service delivery and patient care.

B7 Be aware of and take responsibility for their own fitness in context of physical and/or mental health issues which may affect performance. Seek help and/or guidance as appropriate. Inform Health and Care Professions Council and employer of any change of circumstance that may affect the right to practise.

Assessment method 3: Multiple-Choice Questionnaire

Knowledge
K3 Knowledge and understanding of relevant anatomy, physiology and pathology, normal, normal variants and abnormal image appearances.
K4 Understand key patient signs and symptoms and observation records in order to recognise and manage a deteriorating patient.
K9 Knowledge of the procedure for obtaining consent, the underpinning knowledge of consent, and the procedures for when consent cannot be obtained.
K11 Knowledge of safe patient moving and handling techniques.
K12 Knowledge of the methods of drug administration, the pharmacological basis for interaction of contrast media, including contraindications and how to respond to an emergency situation.
K19 Understands the General Data Protection Regulations and consequences of good and poor data quality on the patient experience/pathway including the need for accurate record keeping and report writing.
K26 Knowledge of cyber security relevant to the Imaging department.
K27 Knowledge of the application of different Imaging procedures and the associated risks/benefits and precautions/safety requirements.

Skills
S1 Undertake basic patient observations, recognise a deteriorating patient, and manage immediately and appropriately.
S10 Provide patient care in accordance with patient condition e.g. patient personal hygiene, basic life support, first aid, basic patient care needs and deliver, where appropriate, brief clinical preventative advice interventions.
S12 Maintain accurate and confidential information using, for example, Radiology Information Systems (RIS), Picture Archiving Communication System (PACS) etc.

Behaviours
