

End-point assessment plan for Laboratory Technician apprenticeship standard

Apprenticeship standard reference number	Apprenticeship standard level	Integrated end-point assessment
ST0248	3	no

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Introduction and overview

This document sets out the requirements for end-point assessment (EPA) for the Laboratory Technician 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 Laboratory Technician apprentices, their employers and training providers.

Full time apprentices will typically spend 24 months on-programme (before the gateway) working towards the occupational standard, with a minimum of 20% off-the-job training. All apprentices must 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 deemed to be 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 can be evidenced to an EPAO.

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 typically 4 months, after the EPA gateway.

The EPA consists of 3 discrete assessment methods.

The individual assessment methods will have the following grades:

Assessment method 1: Knowledge Test

- Fail
- Pass

Assessment method 2: Observation with Questioning

- Fail
- Pass

Assessment method 3: Structured Interview underpinned by a portfolio of evidence

- Fail
- Pass
- Distinction

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

- Fail
- Pass
- Distinction

EPA summary table

On-programme (typically 24 months)	Training to develop the occupation standard's knowledge, skills and behaviours (KSBs).
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 and mathematics Level 2 <p>Apprentices must complete:</p> <ul style="list-style-type: none"> • a portfolio to support the structured interview.
End-point assessment (which will typically take 4 months)	<p>Assessment method 1: Knowledge Test</p> <p>With the following grades:</p> <ul style="list-style-type: none"> · Fail · Pass <p>Assessment method 2: Observation with Questioning</p> <p>With the following grades:</p> <ul style="list-style-type: none"> · Fail · Pass <p>Assessment method 3: Structured Interview underpinned by a portfolio of evidence</p> <p>With the following grades:</p> <p>Fail</p> <p>Pass</p> <p>Distinction</p>

Length of end-point assessment period

The EPA will be completed within an EPA period lasting typically of 4 months after the EPA gateway. Any supporting material which underpins an EPA assessment method should be submitted at the gateway point.

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 are deemed to 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.

For Knowledge Test:

- no specific requirements

For Observation with Questioning:

- no specific requirements

For Structured Interview underpinned by a portfolio of evidence, the apprentice will be required to submit:

- a portfolio. The evidence within the portfolio will provide the opportunity for the apprentice to underpin the knowledge, skills and behaviours being assessed by this assessment method. The format and structure of the portfolio needs to be agreed between the employer, the apprentice and the EPA (e.g. hard copy or on-line). There must be at least one piece of evidence relating to each knowledge, skill and behaviour mapped to the structured interview method. One piece of evidence can be referenced against more than one knowledge, skill or behavioural requirement. There will typically be a range of 15-25 pieces of evidence which could include witness testimonies, continuing professional development records and other work products which clearly confirm how the apprentice has addressed the KSBs mapped to this method. The portfolio should not include any methods of self-assessment. The statements of evidence within the portfolio must be 'real' work completed for the apprentice's employer i.e. simulated activities are not allowable. The employer must sign off the portfolio thereby authenticating it and then confirm to the EPAO that the work has been solely undertaken by the apprentice. The portfolio of evidence is not directly assessed.

Assessment methods

Assessment method 1: Knowledge Test (This assessment method has 1 component.)

Overview

The rationale for this assessment method is:

This occupation involves the need for memory recall of fundamental knowledge areas to ensure the role is carried out safely, accurately and cost-effectively. Using a knowledge test assesses the ability for memory recall. Furthermore,

- it allows for the efficient testing of knowledge where there is a right or wrong answer
- allows for flexibility in terms of when it is taken

Test Format

The test can be:

- paper based
- computer based

It will consist of 40 questions.

These questions will consist of:

multiple-choice questions of which 5 questions based on a scenario / case study

The multiple-choice questions will have four options of which one will be correct. The questions must be varied to avoid the test becoming too predictable yet allow assessment of the relevant KSBs.

Test administration

Apprentices must have a maximum of 75 minutes to complete the test.

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

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 or another external person employed by the EPAO or specialised (proctor) software, if the test can be taken on-line. 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.

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 questions types allow this, to improve marking reliability.

Any incorrect or missing answers must be assigned 0 marks. Correct answers will be assigned 1 mark.

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 a 'test specification' and '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.

Required supporting material

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

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

Assessment method 2: Observation with Questioning (This assessment method has 1 component.)

Overview

Apprentices must be observed by an independent assessor completing work in their normal workplace, in which they will demonstrate the KSBs assigned to this assessment method. The EPAO will arrange for the observation to take place, in consultation with the employer. This scheduling should consider what activities are required to be happening within the workplace to best facilitate the observation.

One independent assessor may observe up to a maximum of one apprentice at any one time, to allow for quality and rigour.

The rationale for this assessment method is:

The occupation involves practical activity best assessed through observation; it would be difficult to replicate the working environment in a valid way and employers would doubt the occupational competence of an individual not assessed in this way.

Delivery

The observation will take 3 hours. The observation may be split into discrete sections held over a maximum of 1 working day. The length of a working day is typically considered to be 7.5 hours. The independent assessor has the discretion to increase the time of the observation by up to 10% to allow the apprentice to complete a task at the end of this component of the EPA.

In advance of the observation, apprentices must be provided with information on the format of the observation, including timescales.

The observation must be of the preparation and performance of a laboratory experiment, test or task, following specified methodologies to provide reliable, accurate data.

The following activities **MUST** be observed during the observation:

Working safely;

Following procedures/work instructions;

Complying with regulations;

Following quality systems.

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

The independent assessor must be unobtrusive whilst conducting the observation. Questions must be asked after the observation is complete. The independent assessor will ask a minimum of 5 questions in a time period not exceeding 20 minutes. They may ask additional follow up questions where clarification is required. The purpose of the questioning is to assess or clarify underpinning knowledge and behaviours based on what the assessor has observed and to assist in determining whether the apprentice has reached pass criteria. These questions may be a combination of those from the EPAO question bank and those generated by the independent assessor. Questioning should take place in a quiet room, free from distractions and influence.

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

The independent assessor will make all grading decisions.

Other relevant information

There may be breaks during the observation to allow the apprentice to move from one location to another or for comfort breaks as required. During these breaks, the clock must be stopped and restarted to ensure that the assessment duration is not reduced. Should the assessment need to be stopped due to a situation arising in the working environment (e.g. fire alarm) the assessor has the discretion to re-start the observation in another area and/or assign an appropriate break until the situation is resolved.

Support material

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

- outline of the assessment method's requirements
- marking materials

Venue

The observation can take place in:

- employer's premises
- workplace other than the employer's own premises (e.g. premises of a client)

Question development

EPAOs will create open questions to assess related underpinning KSBs. They 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.

Assessment method 3: Structured Interview underpinned by a portfolio of evidence (This assessment method has 1 component.)

Overview

This assessment will take the form of an interview 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. Questioning should assess the KSBs assigned to this assessment method and the apprentice may use their portfolio to support their responses.

The rationale for this assessment method is:

- it allows the apprentice to be assessed against KSBs which may not naturally occur during the observation
- it is supported by a portfolio of evidence, enabling the apprentice to demonstrate the application of skill and behaviours as well as knowledge
- it allows for testing of responses where there are a number of potential answers that couldn't be tested through the multiple-choice test
- it is cost effective, as apart from a venue it does not require additional resources

Delivery

The independent assessor will conduct and assess the interview.

The interview must last for 75 minutes and contain a minimum of 20 questions. The independent assessor has the discretion to increase the time of the structured interview by up to 10% to allow the apprentice to complete their last answer.

During this method, the independent assessor must combine questions from the EPAO's question bank and those generated by themselves.

The structured interview will be conducted as set out here:

The structured interview is used to explore the areas of knowledge that would vary between organisations e.g. local procedures and skills/behaviours that may not naturally occur in the observation.

The contents of the portfolio of evidence will influence the questions selected; the assessor will review the portfolio of evidence and then select areas they wish the apprentice to expand on with reference to the identified grading descriptors. The apprentice can use the portfolio of evidence as an aide memoire and to support answers being given.

The independent assessor must use the assessment tools and procedures that are set by the EPAO to record the structured interview.

The independent assessor will make all grading decisions.

Venue

The structured interview should take place in a quiet room, free from distractions and influence.

The structured interview can take place in any of the following:

- employer's premises
- a suitable venue selected by the EPAO (for example a training provider's premises)

Video conferencing can be used to conduct the structured interview, but the EPAO must have processes in place to verify the identity of the apprentice and ensure the apprentice is not being aided in some way.

Other relevant information

Due to the number of specialisms this apprenticeship covers, a technical expert will be available to the assessor for consultation. See Roles and Responsibilities section for rules governing this. The technical expert cannot be from the employer in order to maintain independence and they are only required if the independent assessor does not have the technical expertise required to accurately assess the apprentice in a specialist area.

A structured test specification and question bank must be developed by EPAOs. The 'question bank' must be of sufficient size to prevent predictability and the EPAO must reviewed regularly (at least once a year) to ensure that it, and its content, are fit for purpose. The specifications, including questions relating to the underpinning KSBs, must be varied yet allow assessment of the relevant KSBs.

EPAOs must ensure that apprentices have a different set of questions in the case of re-sits/re-takes.

Independent assessors must be developed and trained by the EPAO in the conduct of the structured interview and reaching consistent judgement.

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

- outline of the assessment method's requirements
- structured interview specification
- question bank
- recording documentation
- marking materials

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.

Weighting of assessment methods

All assessment methods are weighted equally in their contribution to the overall EPA grade.

Grading

Assessment method 1: Knowledge Test

KSBs	Fail	Pass
K6, K7, K8, K9, K11, K16, K18, K19, K20	0 – 27 out of 40 marks	28-40 out of 40 marks

Assessment method 2: Observation with Questioning

KSBs	Fail	Pass
K1, K2 K13, K22 S1, S2, S4, S5, S6, S7, S9, S15 B3, B5	Does not meet the pass criteria	<p>Applies regulatory health and safety procedures in performing and preparing laboratory experiments (K1, S1, S5)</p> <p>Demonstrates use of a Laboratory Information Management System and explains the requirements for storage and handling of data in the context of their role and the regulatory guidance and (K2, S15)</p> <p>Applies resource efficiency to energy, water and waste in the workplace. (K13, S4)</p> <p>Manages scientific equipment e.g. cleaning, calibration and equipment faults according to organizational policies and procedures. (K22, S2)</p> <p>Prepares for and performs a laboratory experiment, test or task following specified methodologies to provide reliable, accurate data (S6, S7)</p> <p>Assumes responsibility for initiating and completing tasks in compliance with quality and safety standards, challenging unsafe working practices where appropriate. (B3)</p> <p>Demonstrates document completion(S9)</p> <p>Demonstrates time management in the completion of work. (B5)</p>

Assessment method 3: Structured Interview underpinned by portfolio

KSBs	Fail	Pass	Distinction
K3, K4, K5, K10, K12, K14, K15, K17, K21 S3, S8, S10, S11, S12, S13, S14, S16, S17, S18, S19 B1, B2, B4, B6, B7, B8	Does not meet the pass criteria	<p>Outlines and applies simple statistical techniques for data presentation. (K3, S12, S14)</p> <p>Identifies and selects methods of communication appropriate to the context (B1)</p> <p>Describes and explains problem solving techniques and applies solutions. Explains how to recognise and call attention to anomalous or unusual results (K4, S13, S19)</p> <p>Identifies and describes ethical practice and codes of conduct operating within the business environment the organisation operates in. (K5)</p> <p>Describes and explains safety systems and procedures. (K10)</p> <p>Gives an example of when they have ordered stocks of laboratory materials (K12, S3)</p> <p>Describes the internal and external regulations pertinent to the sponsoring company & relative specialism in which they operate (K14, K15)</p> <p>Describes internal and external regulatory requirements (K14, K15)</p> <p>Describes how to report faults and seek diagnostic advice and demonstrates the maintenance of equipment (K17, S8)</p> <p>Identifies theoretical knowledge of named / recognised scientific subject relevant to their sector and demonstrates the use of information from scientific sources. (K21, S17).</p>	<p>Evaluates and interprets the results of statistical techniques. (K3, S12)</p> <p>Explains the benefits of sharing results to support organisational continuous improvement Analyses and evaluates problem solving technique solutions (K4, S13, S19)</p> <p>Critically evaluates non-compliance with organisational codes of conduct and ethical practice (K5)</p> <p>Explains the impact of stock control processes on the organisation.(K12,S3)</p> <p>Analyses and evaluates non-compliance with internal and external regulations (K14, K15)</p> <p>Analyses the effect of poorly calibrated equipment on their work (K17)</p> <p>Critically analyses schemes which improve workplace systems and processes (S18)</p>

		<p>Demonstrates participation in schemes which improve workplace systems and processes (S18)</p> <p>Demonstrates accurate record keeping. (S10)</p> <p>Demonstrates the preparation of reports using appropriate software packages (S11, S14)</p> <p>Addresses non-routine problems with samples and instrumentation. (S16)</p> <p>Interacts with others when working in a team and respects equality and diversity(B2, B4)</p> <p>Reflects on and adapts to change. (B6)</p> <p>Acts independently to identify and participate in CPD which addresses their own development needs. (B7)</p> <p>Demonstrates reliability, integrity & respect for confidentiality on work related & personal matters (B8)</p>	
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Overall EPA grading

All EPA methods must be passed for the EPA to be passed overall.

A pass in the knowledge test and observation and distinction in the structured interview is required for an overall distinction grade.

A pass in all 3 methods is required for an overall pass grade.

A fail in 1 or more methods will result in an overall fail grade

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

Knowledge Test	Observation with Questioning	Structured Interview underpinned by portfolio	Overall grading
Fail	Any grade	Any grade	Fail
Any grade	Any grade	Fail	Fail

Any grade	Fail	Any grade	Fail
Pass	Pass	Pass	Pass
Pass	Pass	Distinction	Distinction

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 or re-take any failed assessment methods only.

Re-sits are typically completed within 2 months of the fail notification and retakes are typically completed within 4 months of the fail notification.

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.

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 • ensure 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 • should not be involved in the delivery of 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

	<ul style="list-style-type: none"> • arrange for certification with the relevant training provider
Independent assessor	<p>As a minimum an independent assessor should:</p> <ul style="list-style-type: none"> • have up to date knowledge and expertise of the subject matter • 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 • hold or be working towards an independent assessor qualification e.g. A1 and have had 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 per year (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 • plays no part in the EPA itself
Technical Expert	<p>Due to the number of specialisms covered by this apprenticeship standard, it is recognised that assessors will not have an in-depth knowledge of all of these. Therefore, the assessor may communicate with the technical expert after reviewing the submitted portfolio to clarify specific nuances of the occupational specialism only. The technical expert can provide guidance such as providing context on technical information. Any information provided by the technical expert must only be at the request of the end-point assessor who has the final say over the assessment and grade awarded. The technical expert must not provide evidence on behalf of the apprentice. The technical expert must not amplify or clarify anything in the portfolio. The technical expert should not normally be from the employer in order to maintain independence however a technical expert can be from the same employer as the apprentice as long as conflicts of interest are managed. They are only required if the independent assessor does not have the technical expertise required to accurately assess the apprentice in a specialism.</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: Independent Assessors must be competent in the occupation they are assessing. Assessors must have achieved a relevant qualification at a level equivalent to or higher than the apprenticeship standard being assessed, have recent relevant experience of the occupation/sector gained in the last two years or significant experience of the occupation/sector. They must maintain (and produce on request) an up-to-date and accurate record of their CPD activities which should equate to at least 5 days CPD in the last year and demonstrate that their CPD activities are of learning activities relevant to current or future practice. They must seek to ensure that their CPD has benefited the quality of their practice. If applicable hold additional specialist training or security clearance as required by the industry sector.
- appoint independent assessors who are competent to deliver the end-point assessment
- 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
- ensure independent assessors attend standardisation events on an ongoing basis and at least once per year

Affordability

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

- online assessment
- using an employer's premises

Professional Body Recognition

The Royal Society of Biology, Royal Society of Chemistry and Institute of Physics have worked together with the Science Council to publish learning guides intended to further enhance career prospects and support the professional standards they have a duty to uphold within their Royal Charters. It is their belief that by following the learning guides, or a qualification that covers the learning outcomes they contain, an apprentice will have an enriched experience. While professional recognition by these organisations and professional body membership is not a formal requirement for practising as a Laboratory Technician, training providers, employers and apprentices may wish to have regard to this information and the opportunities that professional registration can confer when considering the design of individual apprenticeship programmes and occupational development. The contact details for these professional bodies and the knowledge information can be found here:

membership@rsb.org.uk

membership@iop.org

registers@rsc.org

Mapping of knowledge, skills and behaviours (KSBs)

Assessment method 1: Knowledge Test

Knowledge
K6 The foundations of health and safety including responsibility for health and safety under Health & Safety at Work Act(HASWA)
K7 Risk assessment & control including Control of Substances Hazardous to Health assessments (COSHH) and Safety Data Sheets
K8 Safe manual handling procedures including Display Screen Equipment (DSE)
K9 Hazardous area classification & Dangerous Substances and Explosive Atmosphere Regulations (DSEAR) and how they apply within area of responsibility
K11 Laboratory health and safety and compliance with legal, regulatory, ethical requirements including the management and control of laboratory waste and the handling and disposal of chemical substances
K16 The reason for laboratory investigations including out of specification results
K18 The principles of Laboratory Information Management systems (digital or paper based)
K19 The principles of root cause analysis
K20 The key principles of continuous improvement and how workplace organisation techniques can be applied to improve workflow.

Assessment method 2: Observation with Questioning

Knowledge
K1 The quality procedures to meet the requirements of quality standards relevant to the workplace.
K2 How to safely store and handle data in line with national and international data protection and cyber security regulations that apply to the role and employer processes.
K13 How to apply the concepts of resource efficiency to energy, water and waste in the workplace.
K22 Scientific equipment management including maintenance e.g. cleaning, calibration, recognising equipment faults and when to escalate.

Skills
S1 Comply with health and safety policies and procedures including HASWA, COSHH, risk assessments, use of personal protective equipment (PPE), manual handling, emergency procedures.
S2 Maintain excellent housekeeping, in accordance with organisation Standard Procedures
S4 Identify, organise and use resources effectively to complete tasks applying the concepts of resource efficiency e.g energy, water and waste
S5 Adhere to internal and external regulatory requirements e.g. GLP, GMP, GDP
S6 Prepare for, and perform, laboratory experiments, tests or tasks following any specified methodologies to provide reliable, accurate data e.g. weighing, pipetting, filtering, spectroscopic techniques, chromatography techniques
S7 Demonstrate technical competence in the use of specified instruments and equipment
S9 Complete documentation accurately.
S15 Use Laboratory Information Management systems to support their work.

Behaviours
B3 Ability to work independently and take responsibility for initiating and completing tasks in compliance with quality and safety standards, challenging unsafe working practices where appropriate.

B5 Time management and ability to complete work to agreed schedule

Assessment method 3: Structured Interview underpinned by portfolio

Knowledge
K3 How to apply statistical techniques for data processing and presentation. e.g calculation of median, standard deviation, produce graphs
K4 How to recognise problems and apply appropriate scientific methods to identify causes and achieve solutions.
K5 The business environment in which the company operates including personal role within the organisation, ethical practice and codes of conduct.
K10 Site and local safety (including fire and electrical), first aid and emergency management systems and procedures.
K12 How to order and control stocks of laboratory materials where required
K14 Internal regulations pertinent to the sponsoring company & relative specialism in which they operate (eg. Good Laboratory Practice(GLP), Good Manufacturing Practice (GMP), Good Documentation Practice (GDP))
K15 The external regulatory requirements pertinent to the sponsoring company & relative specialism in which they operate e.g. Medicines & Healthcare Regulation Authority (MHRA), Food and Drug Administration (FDA), Office for Nuclear Regulation (ONR)
K17 Error reporting and correction techniques e.g. for traceability
K21 Theoretical knowledge of named / recognised scientific subject appropriate to the workplace and sector e.g. such as found in the dental, pharmacology sectors.

Skills
S3 Order and control stocks of laboratory materials where required
S8 Report faults and seek diagnostic advice to maintain equipment in good working order, including calibration where required
S10 Keep accurate records of laboratory work undertaken and results
S11 Contribute to the preparation of reports.

S12 Use simple statistical techniques for data presentation and evaluation e. g calculation of median and standard deviation, production of graphs
S13 Demonstrate problem solving techniques including identification of sources of error and how they can be reduced e.g. human error
S14 Use standard software packages and applications e.g Microsoft office suite
S16 Address non-routine problems with samples and instrumentation, within defined areas
S17 Identify relevant information from scientific sources e.g. supervisors, literature etc. in order to contribute to solutions
S18 Participate in continuous performance improvement of systems and processes relevant to the work environment e.g. workplace organisation techniques, accreditation (e.g. ISO, UKAS) and proficiency testing.
S19 Evaluate data, recognise and call attention to anomalous or unusual results

Behaviours
B1 Effective communication using a range of skills
B2 Effective teamwork
B4 An understanding of impact of their work on others, especially where related to diversity and equality
B6 Ability to adapt to change
B7 Continuing Professional Development (CPD): Accountability of own development needs, undertaking CPD.
B8 Demonstrate reliability, integrity & respect for confidentiality on work related & personal matters