

Technician Scientist V1.1

Level 5 Apprenticeship Standard (ST0597)

Specification



This guide describes the different types of End-Point Assessment tests, the test rules and who should be involved. Preparing for End-Point Assessment and working with SIAS are also covered.

SIAS is the science industry assessment service. It is part of the Cogent Skills Group. For further information about apprenticeship standards and Trailblazers please contact info@siasuk.com.

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Qualification Objective

The aim of this qualification is to ensure that the apprentice is occupationally competent against the knowledge, skills and behaviours outlined in the assessment plan for this standard.

This occupation is found in a wide range of employers. The employers will typically operate in chemical, pharmaceutical, biotechnology, formulated products, or analytical services. Employers can range in size, from large multinational organisations through to smaller businesses. Technician scientists may operate within a science department of a larger organisation or within a smaller science focussed business that provides science services. Technician scientists are typically laboratory-based.

The broad purpose of the occupation is to carry out established laboratory-based investigations and scientific experimentation using bench and instrumentation techniques. A technician scientist will apply a range of skills and follow well established principles associated with their organisation's science and technology. They carry out routine lines of enquiry, development, or investigation. They collect scientific information and analyse, interpret, and evaluate data. They prepare results and provide progress updates of their work.

In their daily work, an employee in this occupation interacts with a wider scientific team, which may include laboratory scientists and laboratory technicians. They communicate information, arguments, and analysis in a variety of forms to specialist and non-specialist audiences.

An employee in this occupation will be responsible for the quality of the work they undertake. They operate in settings where there is certainty and limited ambiguity. They take personal responsibility for decision making in predictable contexts. They work safely and ethically often under highly regulated conditions because of the need to control quality and safety of scientific products. They critically evaluate appropriateness of commonly used approaches to solve science problems, using a range of approaches to formulate evidence-based responses to defined and routine problems and issues within their area of work. They contribute to solutions to problems within the wider scientific team, using appropriate project management procedures. They perform record keeping and checks and use data capture systems relevant to the technical and scientific procedures that they use. They use their awareness of any research interests and the technical context and processes of the laboratory alongside senior team members to contribute to the proposal of new scientific ideas. They may manage resources within a clearly defined area.

Prior Learning and Qualifications

There are no minimum entry requirements to be accepted onto this apprenticeship standard.

Overview

A full-time Apprentice Technician Scientist typically spends 36 months on-programme (this means in training before the gateway) working towards competence as a technician scientist. All apprentices must spend at least 12 months on-programme.

The apprentice must complete 20% of off-the-job training to develop the knowledge, skills, and behaviours (KSBs) of this occupational standard, producing a portfolio of evidence.

Performance in the EPA will determine the overall apprenticeship standard grade of fail, pass, merit or distinction.

Competence Evaluation

During the apprenticeship, regular evaluation of the competence of the apprentice against the apprenticeship standard will help to ensure that they achieve full occupational competence by the end of their training, and they are ready for End-Point Assessment. Confirmation from the employer that the apprentice is fully competent is needed before End-Point Assessment can take place.

As competence evaluation is an in-programme activity, the process that is used for this has not been mandated. It is for the employer supported by their training provider to decide how they wish to do this. To help with this SIAS has produced the SIAS Competence Tracker.

Gateway Requirements

The employer must be content that the apprentice is working at or above the occupational standard.

The apprentice's employer must confirm that the apprentice:

- Is working at or above the occupational standard as a technician scientist.
- Has achieved English and maths qualifications in line with the apprenticeship funding rules
- For the Project:
 - Project title and project brief (no more than 500 words). This needs to show that the project will provide the opportunity for the apprentice to cover the KSBs mapped to this assessment method to the highest available grade. The summary itself is not assessed. To ensure the project allows the apprentice to meet the KSBs mapped to this assessment method to the highest available grade, SIAS should sign-off the project's title and scope at the gateway to confirm it is suitable.
- For the Professional Discussion:
 - Portfolio of evidence.

The apprentice must submit any policies and procedures as requested by SIAS.

Assessment Methods

This EPA has 2 assessment methods:

1. Project presentation and questions
2. Professional discussion underpinned by a portfolio of evidence

Project Presentation with Questions

A project involves the apprentice completing a significant and defined piece of work that has a real business application and benefit. The project must start after the apprentice has gone through the gateway.

The project presentation and questions must be structured to give the apprentice the opportunity to demonstrate the KSBs mapped to this EPA method to the highest available grade.

The project must meet the needs of the employer's business and be relevant to the apprentice's occupation and apprenticeship. SIAS must confirm that it provides the apprentice with the opportunity to demonstrate the KSBs mapped to this EPA method to the

highest available grade. SIAS must refer to the grading descriptors to ensure that projects are pitched appropriately.

This EPA method includes 2 components:

- a project with a project report
- presentation with questions and answers.

The project and any components must be assessed holistically by the End-Point Assessor when they are deciding the grade for this EPA method.

This EPA method is being used because it enables a defined piece of work to be undertaken after the gateway to demonstrate particular aspects of the occupation. The project reflects the approach taken to record scientific laboratory work. It would not be possible to observe the apprentice complete these activities as it would take too long and not be practical to schedule alongside existing work. Technician scientists are required to present the results of scientific work and so the presentation reflects the requirements of the role. The questioning enables underpinning knowledge and understanding to be assessed. This method enables synoptic assessment of knowledge, skills, and behaviours.

Component 1: Project with a Project Report

Apprentices must complete a project which may be based on:

- a scientific experiment and investigation.

To ensure the project allows the apprentice to meet the KSBs mapped to this EPA method to the highest available grade, SIAS should sign-off the project's title and scope at the gateway to confirm it is suitable.

The project must be in the form of a report.

The apprentice must start the project after the gateway. They must complete and submit the report to SIAS after a maximum of 8 weeks. The employer should ensure the apprentice has the time and resources within this period, to plan and complete their project. The apprentice must complete their project and the production of all its components unaided.

The apprentice may work as part of a team which could include technical internal or external support. However, the project report must be the apprentice's own work and will be reflective of their own role and contribution. The apprentice and their employer must confirm that the project report is the apprentice's own work when it is submitted.

The report must include at least:

- an evaluation report of a laboratory-based investigation and scientific experiment that the apprentice has carried out post gateway.

As a minimum, all projects must include:

- planning the investigation and scientific experiment, prioritising tasks, and the selection and review of scientific techniques and laboratory equipment to be used.
- collaboration with stakeholders and how the impact of work on others was considered.
- how scientific techniques were selected to meet the objectives.
- the systematic recording and storage of information.
- how data analysis and interpretation informed actions or recommendations

- summary of findings.

The project report has a maximum word count of 3000 words. A tolerance of 10% above or below the word count is allowed at the apprentice's discretion. Appendices, references, and diagrams are not included in this total. The project report must map, in an appendix, how it evidences the relevant KSBs mapped to this EPA method.

Component 2: Presentation with Questioning

This is a formal presentation where an apprentice will present to an End-Point Assessor on a set subject. The End-Point Assessor must ask questions. Apprentices must prepare, submit, and deliver a presentation. The presentation is restricted to the KSBs allocated to this EPA method as shown in the mapping section of this document.

The presentation and questioning must last 75 minutes. This will typically include a presentation of 30 minutes and questioning lasting 45 minutes.

The End-Point Assessor must ask at least 8 questions. They must use the questions from SIAS' question bank or create their own questions in-line with SIAS' training. Follow up questions are allowed where clarification is required.

The purpose of the End-Point Assessor's questions will be to check the underpinning knowledge and understanding of the apprentice and to ensure coverage of the KSBs mapped to the method.

The presentation will provide an overview of the apprentice's project. End-Point Assessors will ask questions after the presentation. The presentation should build on the report and the apprentice should:

- present results of the scientific work including mathematical concepts that were used.
- justify how they considered the most appropriate scientific techniques to apply and how they ensured that any analysis was reliable and accurate.
- reference the evidence used to inform the results.
- describe the lessons learned.

The apprentice must prepare and submit their presentation to SIAS at the same time as the report which is a maximum of 8 weeks after the gateway.

The apprentice must notify SIAS, at the submission of the presentation, of any technical requirements for the presentation. For the presentation, the apprentice will have access to:

- audio-visual presentation equipment
- flip chart and writing and drawing materials
- Computer
- any other requirements as previously notified to SIAS

The End-Point Assessor must have at least 2 weeks to review the project report and presentation before the presentation is delivered by the apprentice, to allow them to prepare appropriate questions.

Apprentices must be given at least 2 weeks' notice of the date and time of the presentation and question and answer session.

The presentation with questioning must take place in a suitable venue selected by SIAS for example SIAS’ or the employer’s premises. The presentation with questioning should take place in a quiet room, free from distractions and influence.

The presentation with questioning can be conducted by video conferencing. SIAS will have processes in place to verify the identity of the apprentice and ensure the apprentice is not being aided.

Project Presentation and Questions Grading Descriptors

KSBs	Pass Apprentices must demonstrate all the pass descriptors	Distinction Apprentices must demonstrate all the pass descriptors and all of the distinction descriptors
Plan workload K8 S11 B6	P1 Applies the principles and procedures of project management, individually or in a team situation, completing work to schedule in compliance with internal and external requirements’ whilst remaining resilient under pressure. K8 S11 B6	D1 Identifies potential opportunities for the work they have carried out to add value to the project or business beyond the project scope. K8 S11
Prepare for & perform lab tasks K1 K2 K16 S1 S2	P2 Describes the principles of laboratory techniques and how they can be applied to the development of technical projects and the design, development, and implementation of solutions to technical problems and new processes. K1 K2 K16 P3 Identifies potential scientific techniques available to meet experiment objectives. Describes the selection of techniques taking into account risk management, safe working practices, equipment availability, quality standards, the environment, and sustainability. S1 S2	D2 Evaluates the wider business impact of sharing their solutions to technical problems. K2 S2
Analyse, interpret and evaluate data K7 S5 S6 S8 S9	P4 Evaluates the project results data using appropriate mathematical concepts and techniques, tools and/or	N/A

KSBs	Pass	Distinction
	Apprentices must demonstrate all the pass descriptors software packages, recording and storing the data in line with regulatory requirements. K7 S6 S8 P5 Analyses systematically obtained information from scientific/project experiments, interpreting the data to inform actions or recommendations and/or escalate if required. S5 S9	Apprentices must demonstrate all the pass descriptors and all of the distinction descriptors
Communication K17 S10 B2	P6 Complies with company policies and / or guidance / procedures when managing stakeholder relationships or expectations, presenting work suitable for scientific and non-scientific audiences and where their own work impacts on others'. K17 S10 B2	D3 Critically analyses the value to stakeholder relationships of selecting different methods of presenting their project results to scientific and non-scientific audiences. S10 B2

Fail – An apprentice will fail where they do not demonstrate all the pass descriptors.

Project Presentation and Questions Knowledge, Skills, and Behaviours

Ref	Grading Descriptor
Knowledge	
K1	Principles of laboratory techniques and scientific experimentation.
K2	How to apply the principles of laboratory techniques and scientific experimentation to contribute to the development of technical projects and the implementation of new processes.
K7	Mathematical concepts and techniques relevant to the work role (e.g. basic statistical analysis, relating to sampling and data to evaluate results).
K8	The basic principles and procedures of project management and how to contribute to project plans with other team members (e.g. project timeline & milestones).
K16	Different approaches and methods, for use in the identification, design, development, and implementation of solutions to technical problems.
K17	Techniques used to identify and manage stakeholder expectations including compliance with codes of conduct.
Skills	

Ref	Grading Descriptor
S1	Identify potential scientific techniques to meet defined objectives.
S2	Review and select appropriate scientific techniques to undertake required tasks (consider risk management, safe working practices, equipment availability, quality standards, the environment, and sustainability).
S5	Systematically obtain information when conducting scientific experiments.
S6	Record and store data in accordance with regulatory requirements.
S8	Use data analysis tools and software packages to process or produce reliable, accurate data or information.
S9	Interpret scientific data to inform actions or recommendations and escalate where required.
S10	Present the results of scientific work to scientific and non-scientific audiences in written and oral form.
S11	Plan and prioritise own tasks and complete work to schedule whilst maintaining compliance with internal and external requirements.
Behaviours	
B2	Acts in a way that builds and maintains positive relationships with stakeholders (takes account of the impact of own work on others, internally and externally).
B6	Resilient under pressure.

Professional Discussion underpinned by a Portfolio of Evidence

In the discussion, an end-point assessor and apprentice have a formal two-way conversation.

The apprentice can refer to and illustrate their answers with evidence from their portfolio of evidence. It gives the apprentice the opportunity to demonstrate their competency across the KSBs mapped to this EPA method.

This EPA method is being used because it will allow KSBs which may not naturally occur in every workplace or may take too long to observe to be assessed. It also enables the assessment of a disparate set of KSBs. The professional discussion will enable underpinning knowledge to be tested. It reflects the requirement for technician scientists to communicate their approach to work when carrying out their everyday duties.

The professional discussion must be structured to give the apprentice the opportunity to demonstrate the KSBs mapped to this assessment method to the highest available grade.

An End-Point Assessor must conduct and assess the professional discussion.

The purpose of the End-Point Assessor's questions will be to draw out contextualised examples, further clarify skills demonstrated in the portfolio and be used to ask open questions tailored to the role and environment.

The end-point assessor must ask at least 4 questions. Follow-up questions are allowed where clarification is required. The end-point assessor must use the questions from SIAS' question bank or create their own questions in-line with SIAS' training.

A minimum of 1 question will be asked for each of the following themes:

- perform lab tasks.
- calibrate and use equipment.
- record keeping and communication.
- continuous improvement.

SIAS must give an apprentice 2 weeks' notice of the professional discussion.

The End-Point Assessor must have at least 2 week(s) to review the supporting documentation. The apprentice must have access to their portfolio of evidence during the professional discussion.

The apprentice can refer to and illustrate their answers with evidence from their portfolio of evidence is however the portfolio of evidence is not directly assessed.

The professional discussion must last for 105 minutes. The End-Point Assessor can increase the time of the professional discussion by up to 10%. This time is to allow the apprentice to respond to a question if necessary.

The professional discussion must take place in a suitable venue selected by SIAS (for example SIAS' or the employer's premises).

The professional discussion can be conducted by video conferencing. SIAS will have processes in place to verify the identity of the apprentice and ensure the apprentice is not being aided.

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

Portfolio of evidence requirements:

The apprentice must compile a portfolio of evidence during the on-programme period of the apprenticeship. It should only contain evidence related to the KSBs that will be assessed by this assessment method. It will typically contain 15 discrete pieces of evidence. Evidence must be mapped against the KSBs. Evidence may be used to demonstrate more than one KSB; a qualitative as opposed to quantitative approach is suggested.

Evidence sources may include:

- workplace policies/procedures, records
- witness statements
- annotated photographs
- video clips (maximum total duration 10 minutes); the apprentice must be in view and identifiable

This is not a definitive list; other evidence sources can be included.

The portfolio of evidence should not include reflective accounts or any methods of self-assessment. Any employer contributions should focus on direct observation of performance (for example, witness statements) rather than opinions. The evidence provided should be valid and attributable to the apprentice; the portfolio of evidence should contain a statement from the employer and apprentice confirming this.

SIAS will not assess the portfolio of evidence directly as it underpins the discussion. The end-point assessor should review the portfolio of evidence to prepare questions for the discussion. They are not required to provide feedback after this review.

The apprentice must submit any policies and procedures as requested by SIAS.

Professional Discussion Grading Descriptors

KSBs	Pass	Distinction
<p>Perform lab tasks</p> <p>K4 K5 K10 K11 K12 K14 S4 B4 B5</p>	<p>P1 Illustrates and identifies how they have effectively planned and performed laboratory-based investigations and scientific experimentation using named and recognised scientific theory, techniques, procedures, and methods.</p> <p>Articulates key principles of scientific investigation relevant to the role (e.g. route cause analysis or out of specification results).</p> <p>Describes how the role impacts the wider business and the environment in which it operates and how it can inform innovation, enterprise, and idea creation. K4 K5 K12 S4</p> <p>P2 Explains the regulatory environment in which they operate, including the health and safety and environmental regulations, procedures, documentation, and risk management systems applicable to the role.</p> <p>Describes how they have demonstrated commitment to the adoption of ethical, safe, and environmentally sustainable working practices and the impact of this on wider business operations, the sector, society,</p>	<p>D1 Evaluates how their role impacts the wider business and the environment in which it operates and how it can inform innovation, enterprise, and idea creation.</p> <p>Describes the risk to individuals and business if regulations are not followed. K10 K12 B5</p> <p>D2 Evaluates how they have planned and performed laboratory-based investigations and how this will inform their approach to future work.</p> <p>Justifies their selection of scientific techniques and explains the pros and cons of applying alternative techniques. S4</p>

KSBs	Pass Apprentices must demonstrate all the pass descriptors	Distinction Apprentices must demonstrate all the pass descriptors and all of the distinction descriptors
	and the environment. K10 K11 K14 B4 B5	
Calibrate and use equipment K3 S3	P3 Justifies their choice of instrumentation and /or laboratory equipment, maintenance, and calibration techniques relevant to their role. K3 S3	D3 Evaluates the impact that maintenance and calibration of laboratory equipment has on the validity of experimental results K3 S3
Record keeping and communication K6 K9 K15 K18 S14 B1	P4 Describes the importance of people and interpersonal skills when dealing with stakeholders. Explains how they have collaborated professionally with others when identifying results requiring further investigation or escalation. States the requirements and significance of considering accuracy, precision, and recognising trends when reporting results. Explains business requirements pertaining to record-keeping and evaluates its importance and impact on traceability, confidentiality, and quality systems. K6 K9 K15 K18 S14 B1	D4 Evaluates the effectiveness of their collaboration and how this will inform their approach in the future. K15 S14
Continuous improvement K13 K19 S7 S12 S13 S15 B3	P5 Evaluates how they have responded positively to change by keeping up to date with advances in working practices and technologies. Explains how they have identified, developed, or contributed to providing and implementing solutions to technical problems and improved processes across the wider business.	D5 Analyses the impact of their CPD and how their career and professional development aligns with the business strategy and will positively impact the business. S15 B3

KSBs	Pass Apprentices must demonstrate all the pass descriptors	Distinction Apprentices must demonstrate all the pass descriptors and all of the distinction descriptors
	<p>Explains how digital technology enables the functionality of the working environment to be adaptable to change.</p> <p>Justifies how the improvements met the requirements of internal and external customers.</p> <p>Summarises how they have demonstrated commitment to their professional development and the importance of referring to reliable information sources when keeping up to date.</p> <p>Evaluates ways that advances in working practices and technologies can be effectively communicated to other team members. K13 K19 S7 S12 S13 S15 B3</p>	

Fail – An apprentice will fail where they do not demonstrate all the pass descriptors.

Professional Discussion Knowledge, Skills and Behaviours

Ref	Grading descriptor
Knowledge	
K3	Laboratory equipment relevant to the role and the associated maintenance and calibration requirements.
K4	The key principles of scientific investigation relevant to the role (e.g. route cause analysis or out of specification results).
K5	Named and recognised scientific theory appropriate to the workplace and role (e.g. Chemistry, Physics or Life Sciences).
K6	The requirements and significance of reporting results, considering the importance of accuracy, precision, and recognising trends.
K9	Business requirements pertaining to record-keeping, traceability & confidentiality, and quality control systems.
K10	The internal and external regulatory environment pertinent to the work role and how to comply with regulations.

Ref	Grading descriptor
K11	The importance of operating ethically and sustainably, complying with codes of conduct, and the impact of this on business operations, the wider sector, society, and the environment.
K12	How the role impacts on the business and the environment in which it operates (e.g. idea creation, innovation, and enterprise).
K13	The importance of consulting reliable sources of information to keep up to date with scientific, role, or sector knowledge and ways to communicate this to team members.
K14	Health and safety and environmental regulations, procedures, documentation, and risk management systems applicable to the role.
K15	Importance of developing soft skills (people and interpersonal) relevant to the role.
K18	The importance and impact of good record keeping.
K19	How digital technology enables the functionality of the working environment to be adaptable to change.
Skills	
S3	Source and calibrate specified instrumentation and laboratory equipment.
S4	Plan and perform laboratory-based investigations and scientific experimentation using scientific techniques, procedures, and methods relevant to the role.
S7	Contribute to the development or improvement of processes and methodologies and support their implementation into the business as part of a wider team.
S12	Contribute to recommendations, improvements, or scientific solutions to meet the requirements of internal or external customers.
S13	Identify, develop or contribute to solutions to technical problems.
S14	Collaborate with stakeholders and identify results requiring further investigation or escalation.
S15	Keeps up to date with advances in scientific and sector working practices and technologies. Shares best practice across the team.
Behaviours	
B1	Acts in a professional and ethical manner (demonstrates reliability, integrity, and respect for confidentiality).
B3	Committed to continuous professional development (handles and responds positively to change, adjusting to different conditions, technologies, situations, and environments).
B4	Committed to adopting safe working practices.
B5	Committed to the adoption of environmentally sustainable working practices.

Final Grade

The EPA methods contribute equally to the overall EPA grade.

Performance in the EPA will determine the apprenticeship grade of:

- fail
- pass
- merit
- distinction

End-Point Assessors must individually grade the: project presentation and questions and professional discussion underpinned by a portfolio of evidence according to the requirements set out in the EPA plan.

SIAS must combine the individual assessment method grades to determine the overall EPA grade.

Apprentices who fail one or more assessment method will be awarded an overall EPA fail.

Apprentices must achieve at least a pass in all the EPA methods to get an overall pass. In order to achieve an overall EPA ‘merit’, apprentices must achieve a pass in one assessment method and a distinction in the other assessment method. To achieve an overall EPA ‘distinction,’ the apprentice must achieve a distinction in both assessment methods.

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

Project, Presentation and Questions	Professional Discussion underpinned by a Portfolio of Evidence	Overall Grading
Any Grade	Fail	Fail
Fail	Any Grade	Fail
Pass	Pass	Pass
Pass	Distinction	Merit
Distinction	Pass	Merit
Distinction	Distinction	Distinction

Moderation

Assessment organisations will undertake moderation of End-Point Assessor decisions through observations and examination of documentation on a risk sampling basis. Results cannot be confirmed until moderation has been completed.

Re-sits and re-takes

Apprentices who fail one or more EPA method(s) can take a re-sit or a re-take at the employer’s discretion. The apprentice’s employer needs to agree that a re-sit or re-take is appropriate. A re-sit does not need further learning, whereas a re-take does.

Apprentices should have a supportive action plan to prepare for a re-sit or a re-take.

The employer and SIAS agree the timescale for a re-sit or re-take. A re-sit is typically taken within 2 months of the EPA outcome notification. The timescale for a re-take is dependent on how much re-training is required and is typically taken within 3 months of the EPA outcome notification.

If the apprentice fails the project assessment method, they will be required to amend the project report in line with the End-Point Assessor’s feedback. The apprentice will be given 3 weeks to re-work and submit the amended report.

Failed EPA methods must be re-sat or re-taken within a 6-month period from the EPA outcome notification, otherwise, the entire EPA will need to be re-sat or re-taken in full.

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

An apprentice will get a maximum EPA grade of pass for a re-sit or re-take, unless SIAS determines there are exceptional circumstances.

Certification

The outcomes from the End-Point Assessment will be reviewed and a grade conferred by SIAS in accordance with SIAS Quality Assurance procedures, which are available from SIAS. SIAS will notify the employer of the outcome of each of the assessments.

SIAS will apply for the apprentice’s certificate, which will be sent by ESFA. The certificate confirms that the apprentice has passed the End-Point Assessment, has demonstrated full competency across the standard and is job-ready.

Assessment Specification

The assessment specification can be found in the published assessment plan for the standard. Details of which elements of the apprenticeship standard will be tested by each test are given in the Mapping knowledge, skills, and behaviours section of this guide.

Mapping of knowledge, skills, and behaviours

Key:	
Project Presentation & Questions	PPQ
Professional Discussion underpinned by a Portfolio of Evidence	PD

Ref	KSB to be assessed	Assessment Method
Knowledge		
K1	Principles of laboratory techniques and scientific experimentation.	PPQ
K2	How to apply the principles of laboratory techniques and scientific experimentation to contribute to the development of technical projects and the implementation of new processes.	PPQ
K3	Laboratory equipment relevant to the role and the associated maintenance and calibration requirements.	PD

Ref	KSB to be assessed	Assessment Method
K4	The key principles of scientific investigation relevant to the role (e.g. route cause analysis or out of specification results).	PD
K5	Named and recognised scientific theory appropriate to the workplace and role (e.g. Chemistry, Physics or Life Sciences).	PD
K6	The requirements and significance of reporting results, considering the importance of accuracy, precision, and recognising trends.	PD
K7	Mathematical concepts and techniques relevant to the work role (e.g. basic statistical analysis, relating to sampling and data to evaluate results).	PPQ
K8	The basic principles and procedures of project management and how to contribute to project plans with other team members (e.g. project timeline & milestones).	PPQ
K9	Business requirements pertaining to record-keeping, traceability & confidentiality, and quality control systems.	PD
K10	The internal and external regulatory environment pertinent to the work role and how to comply with regulations.	PD
K11	The importance of operating ethically and sustainably, complying with codes of conduct, and the impact of this on business operations, the wider sector, society, and the environment.	PD
K12	How the role impacts on the business and the environment in which it operates (e.g. idea creation, innovation, and enterprise).	PD
K13	The importance of consulting reliable sources of information to keep up to date with scientific, role, or sector knowledge and ways to communicate this to team members.	PD
K14	Health and safety and environmental regulations, procedures, documentation, and risk management systems applicable to the role.	PD
K15	Importance of developing soft skills (people and interpersonal) relevant to the role.	PD
K16	Different approaches and methods, for use in the identification, design, development, and implementation of solutions to technical problems.	PPQ
K17	Techniques used to identify and manage stakeholder expectations including compliance with codes of conduct.	PPQ
K18	The importance and impact of good record keeping.	PD
K19	How digital technology enables the functionality of the working environment to be adaptable to change.	PD
Skills		

Ref	KSB to be assessed	Assessment Method
S1	Identify potential scientific techniques to meet defined objectives.	PPQ
S2	Review and select appropriate scientific techniques to undertake required tasks (consider risk management, safe working practices, equipment availability, quality standards, the environment, and sustainability).	PPQ
S3	Source and calibrate specified instrumentation and laboratory equipment.	PD
S4	Plan and perform laboratory-based investigations and scientific experimentation using scientific techniques, procedures, and methods relevant to the role.	PD
S5	Systematically obtain information when conducting scientific experiments.	PPQ
S6	Record and store data in accordance with regulatory requirements.	PPQ
S7	Contribute to the development or improvement of processes and methodologies and support their implementation into the business as part of a wider team.	PD
S8	Use data analysis tools and software packages to process or produce reliable, accurate data or information.	PPQ
S9	Interpret scientific data to inform actions or recommendations and escalate where required.	PPQ
S10	Present the results of scientific work to scientific and non-scientific audiences in written and oral form.	PPQ
S11	Plan and prioritise own tasks and complete work to schedule whilst maintaining compliance with internal and external requirements.	PPQ
S12	Contribute to recommendations, improvements, or scientific solutions to meet the requirements of internal or external customers.	PD
S13	Identify, develop, or contribute to solutions to technical problems.	PD
S14	Collaborate with stakeholders and identify results requiring further investigation or escalation.	PD
S15	Keeps up to date with advances in scientific and sector working practices and technologies. Shares best practice across the team.	PD
Behaviours		
B1	Acts in a professional and ethical manner (demonstrates reliability, integrity, and respect for confidentiality).	PD
B2	Acts in a way that builds and maintains positive relationships with stakeholders (takes account of the impact of own work on others, internally and externally).	PPQ

Ref	KSB to be assessed	Assessment Method
B3	Committed to continuous professional development (handles and responds positively to change, adjusting to different conditions, technologies, situations, and environments).	PD
B4	Committed to adopting safe working practices.	PD
B5	Committed to the adoption of environmentally sustainable working practices.	PD
B6	Resilient under pressure.	PPQ

Further Information

For information about SIAS policies, quality assurance, re-sits, appeals, complaints and general enquiries please see our website: www.siasuk.com

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