

**Research Scientist
Level 7 Apprenticeship Standard (ST0759)
End-Point Assessment 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 industries including Pharmaceutical, Clinical Trials, Personal Care, Analytical, Manufacturing, Water/Environmental, Energy, Agricultural, Food Science, FMCG, Petro-Chemical, Nuclear, Aerospace, Oil, Gas, Materials, Renewable, Bio medical, NHS, Diagnostics and MOD/Defence. The broad purpose of the occupation is someone who is primarily involved in planning, leading and conducting experiments and analysing results, either with a definite end use, for example to develop new products, processes or commercial applications, or to broaden scientific understanding in general. They provide scientific and technical leadership, giving a clear sense of purpose and driving strategic intent. They can expect to lead on business-critical projects - managing the design and implementation of such projects both internally and externally, disseminating findings to internal and external stakeholders and making strategic recommendations based upon the findings of the project. They take into account new scientific methods and breakthroughs, identifying longer-term opportunities and risks. They will be able to effectively collaborate with both industry and academia, working in multidisciplinary teams, to apply results of research and develop new techniques, products or practices. They are responsible for developing ethical, innovative research practices and programmes with the ability to deliver results. They are a role model, with responsibility for those in senior positions and significant organisational budgets. In their daily work, an employee in this occupation interacts with a wide range of individuals and teams. This is due to the varied work and leadership roles that the individual undertakes through their work. This means that these varied interactions require them to communicate across businesses and industries and lead on ensuring scientific information is communicated in efficient ways, examples of these varied interactions are;

Internal - Direct Reports/teams, Project Teams, Line Managers, Senior Managers, Company Boards, Global Heads of Departments, Teams in other International Regions, Manufacturing Sites, Legal Teams, Sales and Marketing teams, Data Management, Securities Teams, Quality Control and Design Teams

Externals - Compliance, Legislation (court/legal), Regulatory Bodies, Professional Bodies, Universities and Educational Bodies, Customers, External Partners, NGOs, Contract Research Organisations, Sector forums, Patient groups, Media, Technical Specialists, Suppliers and Sector skills councils,

The working environment may also be varied and change from day to day due to the diverse nature of the projects and work that the individual may be working on, but can include;

Lab Based, Manufacturing Plants, Field based - External sites (outside), office based, home based, Customer sites, Conferences and education facilities. An employee in this occupation will be responsible for autonomously managing their own work programs and time while maintaining their own CPD and continuing to develop and update the knowledge and skills of others (coach develop/lead). They are responsible for direct line management of research teams or leading peer groups and collections of scientists in programs/experimentations to achieve required goals. They report to senior level management/heads of functions while also being accountable for reporting to board members within the company, clients and research councils. They will be responsible for budgetary control of their projects and advising on wider company impacts of research around production costs and profitability of research results.

They will be responsible for managing different streams of work and leading on/designing and carrying out trials of process and procedures and Translation of science to action. Alongside also designing, developing, implementing and evaluating these business changes.

The volumes and breath of this may vary due to the size of the organisation. With smaller companies also requiring their research scientists to be responsible for acquiring business through communication with customers and leading in this area.

Prior Learning

Apprentices without level 2 English and maths will need to achieve this level prior to taking the End-Point Assessment. For those with an education, health and care plan or a legacy statement, the apprenticeship's English and maths minimum requirement is Entry Level 3. A British Sign Language (BSL) qualification is an alternative to the English qualification for those whose primary language is BSL.

Overview

Full time apprentices will typically spend 30 months on-programme (before the gateway) working towards the occupational standard, with a minimum of 20% off-the-job training. All apprentices must require and 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 SIAS. Apprentices must have compiled a portfolio of evidence, which underpins the EPA professional discussion.

The EPA must be completed within an EPA period typically lasting three months, after the apprentice has met the EPA gateway requirements.

The EPA consists of two discrete assessment methods.

The individual assessment methods will have the following grades:

Assessment method 1: Project report, presentation and questioning

- distinction
- pass
- fail

Assessment method 2: Professional discussion underpinned by portfolio of evidence

- distinction
- pass
- fail

Performance in the EPA will determine the overall apprenticeship grades of:

- distinction
- pass
- fail

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

Apprentices must complete the gateway requirements and provide evidence to SIAS as detailed below before taking the EPA. On completion of the gateway requirements, the employer must confirm the apprentice as ready for the EPA.

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:

- Achieved English and mathematics at level 2. 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.
- Portfolio of evidence for use in the Professional Discussion

Assessment Methods

The end-point assessment consists of two assessment methods:

1. Project Report, presentation and questioning (based on a pre-gateway project)
2. Professional Discussion (underpinned by portfolio of evidence)

Project Report, Presentation and Questioning (based on a pre-gateway project)

Apprentices must produce the project report during the EPA period, which will be the basis of a presentation to the End-Point Assessor, with follow up questioning immediately after the presentation.

The report forms part of the End-Point Assessment and therefore it cannot be started until gateway is completed.

As apprentices will be working on a wide variety of tasks and have varied responsibilities throughout the Research Project that they undertake, the employer will provide the title and scope for the Project Report to the apprentice prior to the EPA gateway. Following the gateway, SIAS will confirm that the title and scope is appropriate, or will make an alternative suggestion, within 1 week of notification of the title.

Project Report

The Project Report must be 4,000 to 4,400 words excluding tables, figures, references and annexes. The Project Report must be submitted to SIAS three weeks after receiving notification of the project title. The assessor will have a further 2 weeks prior to the presentation and questioning components, to review the contents and prepare for the questioning component.

The scope and definition of the Project Report must include a summary of the stage covered by the project and an overview of the tasks as well as responsibilities undertaken by the apprentice.

The Project Report content must cover, but not be limited to, the following topics:

- Discussion of the tasks and responsibilities undertaken by the apprentice, for example, monitoring, clinical trial management systems, and data collection/data management and reporting
- Discussion of risks and mitigations for the project and associated responsibilities
- Discussion of the research team structure and interactions during the project / tasks
- Records and data handling considerations
- Discussion of challenges and barriers observed and actions taken
- Lessons learned and best practices

The Project Report must include (in addition to the 4,000 to 4,400 words) an annex containing a maximum of 10 pieces of evidence relating to the project. The evidence must be attributable to the apprentice, in part or in full. Evidence must be accompanied by a statement outlining the apprentice's contribution, signed by the apprentice and their employer. Example evidence could include meeting minutes, extracts from business strategy, key performance indicator dashboards, risk log and organisation charts.

The project report must be based on a real research project carried out in the employer's workplace as part of the apprentice's day to day activities. The employer must sign-off the project report, thereby authenticating it.

Typical project subjects could be:

- Process Improvement
- Efficiency Improvement
- Cost reduction
- New Products
- New Processes.

The presentation will be based on the project report and will cover the following:

- a summary of the project report
- explanation of how and why specific techniques and criteria have been selected
- improvements moving forward
- recommendations
- critical evaluation of the project.

The End-Point Assessor will then draw out any further information using questions.

The presentation can be conducted either face-to-face or via online video conferencing. If using an online platform, SIAS must ensure appropriate measures are in place to prevent misrepresentation and ensure the apprentice is not being aided in any way e.g. use of a 360-degree camera to allow the assessor to look around the room during the presentation.

The apprentice will have 2 weeks from the time they submit their project report to complete and submit the presentation.

The assessor must holistically assess the project report, presentation and questioning against the KSBs below, using the grading criteria.

Presentation and Questioning

The presentation will last for **30 minutes** and the questioning **30 minutes**.

The End-Point Assessor has the discretion to increase the time of the presentation by up to 10% to allow the apprentice to complete their last point.

The End-Point Assessor will ask a minimum of 12 questions at the end of the presentation. The apprentice may deliver the presentation in a format of their choosing and SIAS must ensure that they have access to the following:

- AV presentation equipment
- flip chart
- work products
- videos
- interactive demonstrations
- notes
- computer

The End-Point Assessor will ask competency type questions based on the KSBs assigned to this method to ensure a consistent approach is adopted. The End-Point Assessor may ask follow-up questions to seek clarification where required. Assessment should take place against the knowledge and skills listed for this assessment method. End-Point Assessors may use questions from the question bank and those generated themselves.

Grading Criteria: Project Report, Presentation and Questioning

KSBs	Grade Descriptor Pass – Apprentice must meet all pass criteria to achieve a Pass	Grade Descriptor Distinction – Apprentice must meet all pass criteria and at least 5 of the distinction criteria to achieve a Distinction
K1 S1	P1 Makes strategic and scientific decisions based on a deep and systemic understanding of a named / recognised scientific subject (as found in an industrial setting), and demonstrates the use of a range of advanced, new and emerging practical and experimental skills to support these decisions.	D1 Evaluates the importance of strategic and scientific decision-making by drawing on relevant theory or literature and links this to a range of advanced, new and emerging practical and experimental skills.
K4	P2 Uses and explains research methodologies and scientific processes appropriate to the sector and applies these to form a hypothesis. Explains any unpredictability of the research project undertaken and any adaptations made as a result of new developments.	D2 Critically evaluates all aspects of the research project undertaken and the identified adaptations and/or improvements. Describes the anticipated impact of these on future projects and the wider business in terms of colleagues and finance.
K5	P3 Uses statistical analysis and numerical modelling techniques and explains how they were applied. Explains the application of this analysis clearly and coherently, including how data interpretation informed decisions against the goals and targets of the project and company objectives.	D3 Justifies the use of statistical analysis and numerical modelling techniques used explaining why the techniques used were most appropriate to the project.
K6	P4 Explains how they have handled data in the project in-line with GDPR and the employer’s processes,	D4 Explains the consequences of not following employer processes and not working in-line with GDPR

KSBs	Grade Descriptor Pass – Apprentice must meet all pass criteria to achieve a Pass	Grade Descriptor Distinction – Apprentice must meet all pass criteria and at least 5 of the distinction criteria to achieve a Distinction
	including how to create a data management plan.	
S2	P5 Captures, analyses and critically evaluates data utilising at least one statistical tool or analytical technique to draw logical conclusions.	D5 Captures, analyses and critically evaluates data utilising a range of statistical tools or analytical techniques to draw logical conclusions
S4 (written and presentation skills only)	P6 Structures the project report clearly and includes critique of others' work across a range of documentation. Explains how best to present and communicate key content and messages, whilst respecting and acknowledging the value of alternative views.	D6 Analyses, evaluates and compares complex data across a broad range of documentation and presents complex scientific information to an appropriate target audience with insightful discussion, including clear and comprehensive interpretation.
S7	P7 Uses research methodology based on current sources and presents intellectual insight and innovations suitable for internal and external stakeholders.	D7 Evidences sustained research of significant and relevant published literature with all key information cited. Presents intellectual insight and analyses, evaluates and compares complex data both within the research project and with the wider literature.
B6	P8 Presents the research project plan and explains how deadlines were achieved and how the project fits into business objectives.	D8 Explains how they have worked to, and met, specific target timescales independently whilst prioritising tasks to meet business needs.

Knowledge, Skills and Behaviours: Project Report, Presentation and Questioning

Ref	Grading descriptor
Knowledge	
K1	<p>Subject specific knowledge: A deep and systemic understanding of a named / recognised scientific subject as found in an industrial setting, such as biology, chemistry or physics, found in the nuclear, food manufacture, pharmacology or energy production sectors, at a level that allows strategic and scientific decision making, while taking account of inter relationships with other relevant business areas / disciplines.</p>
K4	<p>Research methodologies: Methodologies appropriate to the sector and how to formulate and apply a hypothesis.</p> <p>Appropriate application of scientific process.</p> <p>The unpredictability of research projects and the need to adapt and adjust daily planning needs to accommodate new developments.</p>
K5	Data analysis and evaluation:

Ref	Grading descriptor
	<p>Statistical analysis techniques, numerical modelling techniques and how they are applied in context.</p> <p>How to interpret and categorise data to make informed and objective decisions against the goals and targets of the project.</p> <p>How to evaluate and interpret the data and associated analysis against company objectives.</p>
K6	<p>Data management: How to safely store and handle data in line with national and international data protection and cyber security regulations that apply to the role.</p> <p>How to manage and store data in line with employer processes and security approach.</p> <p>How to create an appropriate data management plan</p>
Skills	
S1	<p>Application of Scientific Knowledge: Apply a range of advanced, new and emerging practical and experimental skills appropriate to the role (e.g. chemical synthesis, bio analysis, computational modelling).</p>
S2	<p>Data Collection and Reporting: Capture and evaluate data critically drawing a logical conclusion, e.g. Case Report Forms, Data Management Plans, Data Review Plans, edit checks and User Acceptance.</p> <p>Testing Plans.</p>
S4	<p>Communication Skills: Write extended reports and critique others' work across a range of documentation, e.g. protocols, consent forms and scientific reports.</p> <p>Deliver oral presentations and answer questions about their work and/or the work of their team.</p>
S7	<p>Research and dissemination: Frame research questions and methodology drawing from current sources e.g., literature and databases. They can produce intellectual insight and innovations in their own discipline to be shared with colleagues, peers and wider stakeholders internal and external to the business.</p>
Behaviours	
B6	<p>Planning, Prioritisation and Organisation: Effective time management</p>

Professional Discussion (underpinned by portfolio of evidence)

Portfolio of Evidence

Apprentices are required to submit a portfolio of evidence at gateway. The apprentice will be required to submit:

- Professional competency, training and development portfolio of evidence. This should include:
 - research projects, training, development activities and performance reviews that the apprentice has undertaken during the apprenticeship period.
 - details of research projects undertaken which will include a high-level overview of the projects, key objectives and deliverables, dates and time periods for the projects and a detailed description of the activities of the apprentice in order to achieve the project deliverables.
 - details of the training undertaken which will include the title of the training course, dates and time period for the training, details of the training provider, a description of the training course content and the outcome (if applicable).

The portfolio should demonstrate how each work project and training activity helps to achieve the Knowledge, Skills and Behaviours (KSBs) set out in the occupational standard and include individual pieces of evidence to demonstrate competence against one or more KSBs.

Evidence sources may include evidence of work undertaken which may be supported by: client feedback, witness testimonies, employer/trainer feedback, training records, appraisal records, training course completion. This list is not definitive, other evidence sources are permissible however reflective accounts and self-evaluations are not allowed.

The portfolio of must contain at least one piece of evidence mapped clearly to each of the knowledge, skills and behaviours (KSBs) relating to this assessment method. Although each piece of evidence may map to more than one KSB, this will typically result in 15 pieces of evidence to cover all KSBs listed. The employer must sign off the portfolio of evidence, thereby authenticating it.

The portfolio of evidence itself is not assessed; it is used to inform the questioning for the professional discussion

Professional Discussion

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 focus on:

- the projects (other than that used for assessment method 1), training, development activities and performance reviews that the apprentice has undertaken during the apprenticeship period;
- details of the activities undertaken which will include a high-level overview of the activities, key objectives and deliverables, dates and time periods for the activities and a detailed description of the activities of the apprentice in order to evidence competency in the KSBs;
- details of the training undertaken which will include the title of the training course, dates and time period for the training, details of the training provider, a description of the content from the training course and the outcome (if applicable);

- The training and development portfolio should demonstrate how each work activity and training activity contributes to the achievement of the Knowledge, Skills and Behaviours (KSBs) set out in the apprenticeship standard.

SIAS will receive a copy of the portfolio of evidence at the EPA gateway to provide sufficient time to review its content. SIAS will provide guidance on what format the portfolio might take, including how it will be submitted. The content of the portfolio of evidence must be used to support the professional discussion.

The End-Point Assessors will conduct and assess the professional discussion.

The professional discussion must last for **60 minutes**. The End-Point 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, in-line with SIAS’s Reasonable Adjustments Policy.

The End-Point Assessor will ask a minimum of 8 questions during the professional discussion. The End-Point Assessor may ask follow-up questions to seek clarification where required. Assessment should take place against the knowledge, skills and behaviours listed in mapping section of this document. Due to the level of this Standard, the answers for each of the 8 questions must be in enough detail to evidence depth of knowledge.

During the discussion, the End-Point Assessor must use a minimum of 4 questions from SIAS's question bank and 4 generated by the End-Point Assessor.

The purpose of the professional discussion is to:

- clarify any questions the End-Point Assessor has from their review of the Portfolio of evidence, this portfolio should be reviewed before the professional discussion takes place;
- explore aspects of the work, including how it was carried out, in more detail;
- require the apprentice to draw on their evidence to demonstrate the KSBs.

Grading Criteria: Professional Discussion

KSBs	Grading Criteria
Pass – Apprentice must meet all pass criteria to achieve a Pass	
K2 B1	P1 Describes where their role has contributed to the successful achievement of an organisational objective and provides examples of when they have communicated effectively with a wide range of senior leaders across different departments.
	P2 Demonstrates examples of advanced mixed media communication, such as presentations, report writing (technical and non-technical) negotiation and influencing.
	P3 Describes examples of when they have provided leadership within a team of multi discipline specialists at different levels across the organisation, ensuring a shared vision and commitment to success.
	P4 Describes examples of how their project management was used in their employer’s environment with regard to quality, cost and time.
	P5 Describes the employer’s organisational structure and where their own role fits.
K3	P6 Explains current relevant national and international regulations needed to carry out their role, including the benefits of equality and diversity in the workplace.

KSBs	Grading Criteria
	P7 Explains how to identify, record, mitigate and manage risk and the impact of failure.
K7	P8 Provides an example of where they have used market analysis tools (SWOT / PESTLE / feasibility studies) to assess the impact of the project on the business, including decisions made in terms of value for money. P9 Describes the key aspects of intellectual property rights and how they apply to the role and specific projects.
K8	P10 Describes the importance of continuing professional development and how to maintain their own specialist knowledge in an ever-evolving environment. P11 Provides examples of when they have effectively coached and mentored colleagues, peers or team members (including non-technical colleagues) to address identified skills gaps, using appropriate methods.
S3	P12 Describes an example of where they have identified an issue involving intellectual property and the commercial demands of the business environment and its relevance to the outcome of the project and organisational impact.
S4 B1 B4	P13 Explains how they have utilised interpersonal skills, communication and assertiveness to persuade, motivate and influence. P14 Describes an example when they have discussed work constructively and objectively with internal and external stakeholders whilst managing expectations.
S5	P15 Describes the key elements of effective project plans to manage scope, schedules, budget and risk. P16 Describes examples of when they have organised resources, budgets, tasks and people and co-ordinated team activities to meet project requirements and quality processes. P17 Describes how to adapt scientific strategy/delivery to be consistent with requirements. e.g. client, regulatory, ethical, geographic.
S6	P18 Provides examples of when they have conceptualised, evaluated and analysed information to solve problems.
S8	P19 Describes examples of when they have applied a range of coaching and mentoring techniques with colleague's peers and team members, selecting the correct method to suit the situation and the person being coached or mentored.
B2	P20 Explains an example of when challenges have been overcome requiring resilience despite setbacks.
B3 B5	P21 Describes examples of consistent, safe, confidential, ethical and professional working practices, keeping themselves safe, including examples of leadership and followership.
B4	P22 Explains an example of when they have managed the expectations of senior management, study sponsors, vendors, investigational sites and key opinion leaders.
B7	P23 Describes the importance of CPD backed up by planning and/or demonstrating intent, including relevant accreditations /licenses applicable to role.
Distinction – Apprentice must meet all pass criteria and at least 5 of the distinction criteria to achieve a Distinction	
K2 B1	D1 Provides an example of when they have led a process leading to the achievement of an organisational objective and how their project management skills had a positive impact on quality and cost. D2 Can describe the leadership styles that exist in their workplace and can compare and contrast these with theory.
K3	D3 Can cite best practice examples of risk management in research and compare and contrast these to practices in their own organisation, identifying possible opportunities for improvement.

KSBs	Grading Criteria
K7	D4 Can describe the implication of intellectual property rights and how they apply to specific projects.
K8	D5 Describes an example of when they have coached or mentored colleagues, peers or team members and identifies the benefits of this.
S3	D6 Describes an analysis of the relevance of intellectual property on the outcome of the project and the impact this could have on the organisation.
S4 (part) B1 B4	D7 Explains examples of when they have contributed to the knowledge base and understanding of team members via clear interpersonal skills and effective communication including assertiveness and motivation, and the impact this had on the organisation D8 Explains examples of when they have taken personal responsibility and defended decisions in unpredictable professional situations. (In doing so they demonstrate a clear commitment to personal values of professionalism, ethical practice, inclusivity and ongoing personal development, together with a willingness to plan and manage effective change)
S5	D9 Can describe examples of when they have adapted scientific strategy or delivery to consistently meet requirements. e.g. client, regulatory, ethical, geographic.
S8	D10 Compares and contrasts a range of coaching and mentoring techniques and how each is selected to suit the situation and the person being coached / mentored.
B1	D11 Compares and contrasts collaborative working techniques and how / why these should be selected. Draws on ideas and theories on team working to justify decisions on communication styles and working practices.
B2	D12 Critically evaluates an example of when they have overcome a challenge despite setbacks whilst maintaining professionalism and how this has contributed to ongoing personal development.
B3 B5	D13 Describes best practice in safe, confidential and professional working practices relating to leadership and followership. Can describe personal achievements of professionalism and gaining trust of others.
B4	D14 Describes successful management of the expectations of senior management, study sponsors, vendors, investigational sites and key opinion leaders and evaluates the most effective techniques to use with each.
B7	D15 Explains the importance of CPD with regards to project planning and progress and the impact this has on themselves and the organisation.

Knowledge, Skills and Behaviours: Professional Discussion

Ref	Grading descriptor
Knowledge	
K2	<p>Management, leadership and effective communication: Organisation objectives and where their role contributes to the success achievement of these objectives. How to communicate effectively with a wide range of senior leaders across different departments, up and down the supply chain, within their own team.</p> <p>Advanced mixed media communication, such as presentations, report writing (technical and non-technical) negotiation and influencing.</p> <p>Leadership within a team of multi discipline specialists at different levels across the organisation, ensuring a shared vision and commitment to success.</p>

Ref	Grading descriptor
	Effective project management as used in their employer’s environment with regard to quality, cost and time. The employer’s organisational structure and where their own role fits
K3	<p>Ethics, regulation and registration: All current relevant national and international regulations needed to carry out the role. This will include scientific regulation, health and safety and laboratory safe practice, anti-bribery and anti-corruption.</p> <p>Ethical scientific practice and the employer’s processes and procedures surrounding professional conduct</p> <p>How to identify, record, mitigate and manage risk. The impact of failure and how to manage risk on the business.</p> <p>The benefits of equality of diversity in the workplace.</p>
K7	<p>Entrepreneurial and enterprise: How to consider a multi solution approach to the objective in the key stages of a project.</p> <p>Market analysis awareness (SWOT / PESTLE / feasibility studies) and how to assess the impact of the project on the business.</p> <p>Intellectual property rights as they apply to the role and specific projects.</p> <p>Value for money and the ability to use market analysis to make go / no go decisions.</p>
K8	<p>Development of self and others: The importance of continuing professional development and how to maintain their own specialist knowledge in an ever-evolving environment.</p> <p>How to effectively coach and mentor colleagues, peers or team members to address identified skills gaps, using appropriate methods.</p> <p>How to upskill non-technical colleagues to enable them to complete their own role as needed.</p>
Skills	
S3	<p>Commercial and Business Issues: Identify issues, including intellectual property and the commercial demands of the business environment.</p> <p>Understand the scientific objectives of work undertaken and its relevance to the organisation.</p>
S4	<p>Communication Skills: Utilise interpersonal skills, communication and assertiveness to persuade, motivate and influence.</p> <p>Discuss work constructively and objectively with colleagues, customers and others; respond respectfully to and acknowledge the value of alternate views and hypothesis</p>
S5	<p>Project Management and Leadership: Generate effective project plans to include management of scope, schedules, budget and risk. Organise resources, budgets, tasks and people. Co-ordinate team activities to meet project requirements and quality processes.</p>

Ref	Grading descriptor
	Adapt scientific strategy/delivery to be consistent with requirements. e.g. client, regulatory, ethical, geographic.
S6	Critical Thinking: Conceptualise, evaluate and analyse information to solve problems
S8	Developing others: Apply a range of coaching and mentoring techniques with colleague’s peers and team members, selecting the correct method to suit the situation and the person being coached / mentored.
Behaviours	
B1	Team Working: Collaboration, influence, and respect for others
B2	Flexibility and Adaptability: Responsiveness to change, adjusting to different conditions, technologies, situations and environments.
B3	Integrity and Reliability: Respect for the confidentiality of individuals and company information. An intrinsic ethical stance to all aspects of day-to-day activities. Reputation of trust internally and externally.
B4	Management of Expectations: Of senior management, study sponsors, vendors, investigational sites and key opinion leaders.
B5	Accountability: For self and others to ensure that actions are in the best interest of affected parties.
B7	Continuing Professional Development (CPD): Accountability of own and others development needs, undertaking CPD. Curiosity of science and proactively develops knowledge to ensure that scientific and business decisions are based on strong science.

Final Grade

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

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

Project Report, Presentation and Questioning	Professional Discussion	Overall Grading
Any Grade	Fail	Fail
Fail	Any Grade	Fail
Pass	Pass	Pass
Distinction	Pass	Pass
Pass	Distinction	Pass
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-takes / re-sits

Apprentices who fail one or more assessment method will be offered the opportunity to take a re-sit or a re-take. In the event of a re-sit or re-take, the apprentice is permitted to use the same project title however SIAS must ensure a different set of questions are used during the questioning element of the presentation.

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.

Any assessment method re-sit or re-take must be taken during the EPA period, otherwise the entire EPA must be taken again, unless in the opinion of SIAS 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 SIAS determines there are exceptional circumstances requiring a re-sit or re-take.

Certification

The outcomes from the End-Point Assessment will be reviewed and a grade conferred by SIAS in accordance with SIAS QA 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 Report, Presentation & Questioning	PRPQ
Professional Discussion	PD

Ref	KSB to be assessed	Assessment Method
Knowledge		
K1	<p>Subject specific knowledge: A deep and systemic understanding of a named / recognised scientific subject as found in an industrial setting, such as biology, chemistry or physics, found in the nuclear, food manufacture, pharmacology or energy production sectors, at a level that allows strategic and scientific decision making, while taking account of inter relationships with other relevant business areas / disciplines.</p>	PRPQ
K2	<p>Management, leadership and effective communication: Organisation objectives and where their role contributes to the success achievement of these objectives. How to communicate effectively with a wide range of senior leaders across different departments, up and down the supply chain, within their own team.</p> <p>Advanced mixed media communication, such as presentations, report writing (technical and non-technical) negotiation and influencing.</p> <p>Leadership within a team of multi discipline specialists at different levels across the organisation, ensuring a shared vision and commitment to success.</p> <p>Effective project management as used in their employer’s environment with regard to quality, cost and time. The employer’s organisational structure and where their own role fits</p>	PD
K3	<p>Ethics, regulation and registration: All current relevant national and international regulations needed to carry out the role. This will include scientific regulation, health and safety and laboratory safe practice, anti-bribery and anti-corruption.</p> <p>Ethical scientific practice and the employer’s processes and procedures surrounding professional conduct.</p> <p>How to identify, record, mitigate and manage risk. The impact of failure and how to manage risk on the business.</p> <p>The benefits of equality of diversity in the workplace.</p>	PD
K4	<p>Research methodologies: Methodologies appropriate to the sector and how to formulate and apply a hypothesis.</p>	PRPQ

Ref	KSB to be assessed	Assessment Method
	<p>Appropriate application of scientific process.</p> <p>The unpredictability of research projects and the need to adapt and adjust daily planning needs to accommodate new developments.</p>	
K5	<p>Data analysis and evaluation: Statistical analysis techniques, numerical modelling techniques and how they are applied in context.</p> <p>How to interpret and categorise data to make informed and objective decisions against the goals and targets of the project.</p> <p>How to evaluate and interpret the data and associated analysis against company objectives.</p>	PRPQ
K6	<p>Data management: How to safely store and handle data in line with national and international data protection and cyber security regulations that apply to the role.</p> <p>How to manage and store data in line with employer processes and security approach.</p> <p>How to create an appropriate data management plan.</p>	PRPQ
K7	<p>Entrepreneurial and enterprise: How to consider a multi solution approach to the objective in the key stages of a project.</p> <p>Market analysis awareness (SWOT / PESTLE / feasibility studies) and how to assess the impact of the project on the business.</p> <p>Intellectual property rights as they apply to the role and specific projects.</p> <p>Value for money and the ability to use market analysis to make go / no go decisions.</p>	PD
K8	<p>Development of self and others: The importance of continuing professional development and how to maintain their own specialist knowledge in an ever-evolving environment.</p> <p>How to effectively coach and mentor colleagues, peers or team members to address identified skills gaps, using appropriate methods.</p> <p>How to upskill non-technical colleagues to enable them to complete their own role as needed.</p>	PD
Skills		
S1	<p>Application of Scientific Knowledge: Apply a range of advanced, new and emerging practical and experimental skills appropriate to the role (e.g. chemical synthesis, bio analysis, computational modelling).</p>	PRPQ
S2	<p>Data Collection and Reporting:</p>	PRPQ

Ref	KSB to be assessed	Assessment Method
	Capture and evaluate data critically drawing a logical conclusion, e.g. Case Report Forms, Data Management Plans, Data Review Plans, edit checks and User Acceptance. Testing Plans.	
S3	Commercial and Business Issues: Identify issues, including intellectual property and the commercial demands of the business environment. Understand the scientific objectives of work undertaken and its relevance to the organisation.	PD
S4	Communication Skills: Write extended reports and critique others' work across a range of documentation, e.g. protocols, consent forms and scientific reports. Deliver oral presentations and answer questions about their work and/or the work of their team. Utilise interpersonal skills, communication and assertiveness to persuade, motivate and influence. Discuss work constructively and objectively with colleagues, customers and others; respond respectfully to and acknowledge the value of alternate views and hypothesis	PRPQ / PD
S5	Project Management and Leadership: Generate effective project plans to include management of scope, schedules, budget and risk. Organise resources, budgets, tasks and people. Co-ordinate team activities to meet project requirements and quality processes. Adapt scientific strategy/delivery to be consistent with requirements. e.g. client, regulatory, ethical, geographic.	PD
S6	Critical Thinking: Conceptualise, evaluate and analyse information to solve problems	PD
S7	Research and dissemination: Frame research questions and methodology drawing from current sources e.g., literature and databases. They can produce intellectual insight and innovations in their own discipline to be shared with colleagues, peers and wider stakeholders internal and external to the business.	PRPQ
S8	Developing others: Apply a range of coaching and mentoring techniques with colleague's peers and team members, selecting the correct method to suit the situation and the person being coached / mentored.	PD
Behaviours		
B1	Team Working: Collaboration, influence, and respect for others	PD
B2	Flexibility and Adaptability: Responsiveness to change, adjusting to different conditions, technologies, situations and environments.	PD
B3	Integrity and Reliability:	PD

Ref	KSB to be assessed	Assessment Method
	Respect for the confidentiality of individuals and company information. An intrinsic ethical stance to all aspects of day-to-day activities. Reputation of trust internally and externally.	
B4	Management of Expectations: Of senior management, study sponsors, vendors, investigational sites and key opinion leaders.	PD
B5	Accountability: For self and others to ensure that actions are in the best interest of affected parties.	PD
B6	Planning, Prioritisation and Organisation: Effective time management	PRPQ
B7	Continuing Professional Development (CPD): Accountability of own and others development needs, undertaking CPD. Curiosity of science and proactively develops knowledge to ensure that scientific and business decisions are based on strong science.	PD

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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