SIAS

Science Industry Maintenance Technician (ST0249)

Level 3 Apprenticeship Standard

End-Point Assessment Specification

Endorsed by the Science Industry Partnership

SIP

Contents

This specification describes the end-point assessment tests, the test rules and who should be involved. Preparing for end-point assessment including gateway requirements 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.

In this guide, the term "employer" is used to refer to the host employer, which is the company where the apprentice gains their competency experience. It does not refer to an organisation such as an Apprenticeship Training Agency (ATA) that has the employment contract with the apprentice.

Qualification Objective

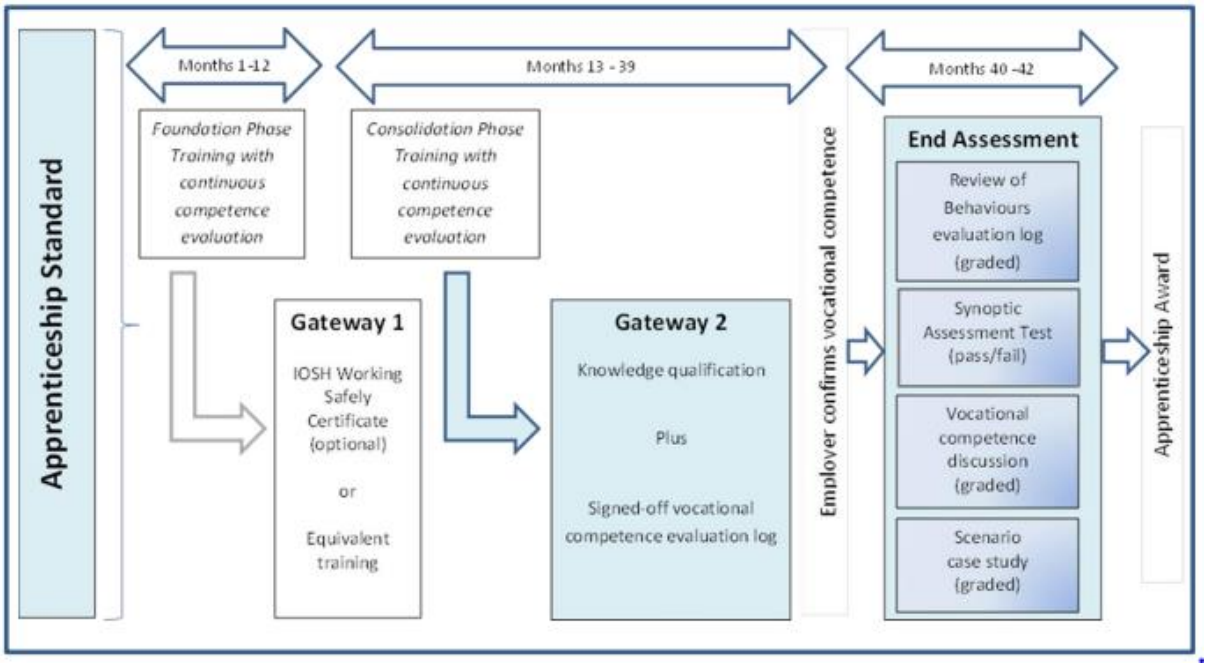
The aim of this qualification is to ensure that the apprentice is occupationally competent against the knowledge, skills and behaviours outlined in the assessment plan for this standard.

A science industry maintenance technician contributes to the fault free and safe operation of science industry plant by the installation, maintenance, testing and repair of mechanical, electrical equipment and instrumentation. They will be proactive in finding solutions to problems and identifying areas for improving their work environment. As well as core engineering skills, maintenance technicians need to understand and follow working practices that are specific to the safety critical science industry. They may work in varied conditions including using specialist safety equipment, shift work and on sites running 365 day operations. They will be expected to work both individually and as part of a maintenance team. They will be able to work with minimum supervision, taking responsibility for the quality and accuracy of the work they undertake. They may be part of in house maintenance teams or engineering maintenance contractor teams who work for different companies across the science industry.

Prior Learning and Qualifications

There are no requirements for previous knowledge or qualifications before a learner begins this qualification.

A Summary of Science Industry Maintenance Technician End-Point Assessment



There are two suggested phases of training. The Foundation Phase, which is typically months 1 -12, will focus on developing the apprentice's core skills, knowledge, and behaviours, specifically around working safely, complying with internal and external regulations, and following quality procedures. This training may take place in the workplace or in a largely simulated working environment. It will culminate in Gateway 1, a review of skills by suitably qualified and experienced personnel from the employer or their nominated training partner that will provide assurance that the apprentice has the understanding of the principles of working safely whilst following quality systems within a regulated environment. Whilst specific qualifications are not mandatory, evidence of completion of this gateway is

confirmed in a log that is a record of their continuous competence evaluation. Completion of this log will be a pre-requisite for participation in the formal end assessment.

The Consolidation Phase, which is typically months 13 – 39, will focus on developing further skills capability supported by further guided learning, enabling the apprentice to eventually work effectively and independently with minimum supervision. The apprentice will work towards a qualification recognised by a professional engineering institution as suitable for registration for EngTech. Achievement of this qualification will also be a pre-requisite for participation in the formal end assessment. At the end of the Consolidation Phase the apprentice will have completed their training and through ongoing competence evaluation, including behaviours evaluation, they will have generated a range of evidence to show they meet the apprenticeship standard. A suitably qualified and experienced registered assessor nominated by the employer will sign off a log that is a record of their continuous competence evaluation to show they are ready for the formal end assessment.

About 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.

Competence Evaluation Log (CEL)

The evidence that the apprentice is ready for end-point assessment is the signed SIAS Competence Evaluation Log (CEL). The CEL covers the knowledge, skills and behaviours specified in the apprenticeship standard. The signed log shows that the apprentice has demonstrated to the employer they are fully competent at the end of their training. It has the same status as a qualification certificate. Along with the qualification certificates, a signed completed CEL is one of the requirements for the Gateway.

Readiness for End-Point Assessment (EPA) – Gateway

The apprentice will be assessed at several stages during their apprenticeship. As well as the assessment / examination that is required for the knowledge qualification, there should be on-going competence evaluation during an apprentice's training programme that will be marked by two gateways, commonly taking place at the end of the first third and at the end of their training programme.

Gateway 1

Trailblazer employers have stipulated this gateway to provide assurance that the apprentice has demonstrated that they understand the principles of working safely. For new entrants to these safety critical industries and particularly young people, this will provide the necessary foundation on which to embed the skills they will need to be able to work safely under supervision whilst following quality systems within a regulated environment.

To demonstrate this gateway has been completed the employer may choose to use the IOSH working safely certificate or an equivalent course or internal training appropriate to their organisation. Completion of Gateway 1 will be recorded in the competence evaluation log.

Gateway 2

By Gateway 2 the apprentice must have completed a specified qualification, a vocational competence evaluation log and a behaviours evaluation log.

Qualification: The apprentice must complete a qualification that is recognised for EngTech by a professional engineering institution. The qualification must be at level 3 or higher and provide the theoretical knowledge needed for the apprenticeship standard.

For example:

- BTEC Level 3 Diploma in Operations and Maintenance Engineering (QCF)
- BTEC Level 3 Diploma in Engineering (Specialist: Operations and Maintenance) (QCF)
- BTEC Level 3 Diploma in Electrical / Electronic Engineering (QCF)

A range of qualifications may be used to fulfil the requirement for the knowledge component of the apprenticeship standard. This allows employers the flexibility to tailor the apprenticeship to meet their specific local needs, whilst meeting the minimum requirements of the apprenticeship standard.

The application of theoretical knowledge will be tested during the formal end assessment. Therefore, the apprentice must have completed the qualification before the end assessment occurs. The qualification will not contribute to the grading of the apprenticeship award.

Vocational Competence Evaluation Log (CEL)

By the end of the apprenticeship a record of competence evaluation should be captured in a log. This log will be a summary record of in-programme evaluation of competence against the work-based learning guide. It is through this process that the apprentice is able to demonstrate competence against the whole apprenticeship standard. This reflects the industry practice of competence management through on-going employer competence evaluation

Behaviours Evaluation Log

During their training, the apprentice's behaviours should be evaluated against the apprenticeship standard. It is recommended that this is carried out a minimum of three times. This should be at the end of the foundation phase, at the midpoint of the consolidation phase and at gateway two. The outcome from the last evaluation should be brought as evidence to the vocational competence discussion and will contribute to the grading of the apprenticeship award.

Stages of End-Point Assessment

On completion of Gateways 1 and 2 the employer will sign off the apprentice as ready for the formal end assessment, which must be conducted in the workplace. Formal end assessment, which will take place during the last 3 months of the apprenticeship will comprise:

- Review of behaviours evaluation log
- Synoptic assessment test (SAT)
- Vocational competence discussion
- Scenario case study

Review of Behaviour Evaluation Log

During their training, an apprentice's behaviours will be evaluated on at least 3 occasions. The evaluation will be across seven categories:

- Personal Responsibility

- Communication
- Teamwork
- Independence and Responsibility
- Impact of work
- Time management
- Change Management

Outcome	Description
Does not meet Expectations	Apprentice failed to demonstrate an acceptable level of behaviour. Improvement is required.
Meets Expectation	Apprentice demonstrated acceptable level of behaviour and meets the minimum level of behaviour expected.
Exceeds Expectation	Apprentice demonstrated consistent and positive behaviours in this area that reflect those expected of outstanding apprentices.

The outcome from the final evaluation at gateway 2 will be reviewed during the vocational competence discussion and will contribute to grading of the apprenticeship award.

Synoptic Assessment Test (SAT)

The end-point assessment will include a synoptic assessment test (SAT) through workplace observation and discussion with the registered assessor. Part of the SAT must be observed by a SIAS assessor.

The employer will be able to select one of these SATs to suit the assessment context:

- Demonstrate an understanding of the practices and procedures for planning to maintain systems and equipment, relevant to a single specialist discipline or a number of disciplines (mechanical, electrical, instrumentation) as required by the job role whilst following applicable quality build plans, codes, and standards.
- Where applicable use information extracted from engineering drawings, specification diagrams or maintenance manuals and / or computer database system to successfully complete the task.
- Safely prepare the work area for maintenance of equipment, plant, systems, or components.
- Carry out planned routine or non- routine maintenance activities, effectively, efficiently, and safely.
- Safely follow the appropriate engineering techniques, procedures, and methods of relevance to complete the maintenance activity.
- Reinstate the work area after completing the maintenance of equipment, plant, systems, and components, leaving it clean and tidy.
- Update any appropriate documentation / systems following the completion of the task.

Purpose

The purpose of the synoptic assessment test is to validate the apprentice's competence by observing him / her carrying out his / her job role in a normal working environment under normal conditions. The following aspects should be displayed:

- Working safely

- Following procedures / work instructions
- Complying with regulations
- Following quality systems
- Using appropriate vocational skills

Test Methodology

The test will be in the form of an observation in the workplace under the following conditions:

a. observation carried out by a registered assessor
b. a timescale of between two and four hours on a single occasion
c. with no coaching or mentoring from colleagues
d. in the normal working environment
e. under observation by the external assurer
f. where the situation demands it, simulation will be allowed
g. walk through / talk through of the simulation should be conducted by the assessor and noted on the documentation
h. previously planned to ensure that the proposed activity / activities meet the SAT specification
i. the outcomes are documented using SIAS's standard documentation.

A full list of the assessment rules can be found in the assessment plan.

The registered assessor must use the following assessment criteria:

Grade	Description
Fail	For one or more elements of the specification the apprentice has an incomplete understanding, approaches tasks mechanistically and needs supervision to complete them.
Pass	For all elements of the specification, the apprentice has a good working and background understanding, sees actions in context, able to complete work independently to a standard that is acceptable.

Vocational Competence Discussion

Following the SAT, the apprentice will take part in a vocational competence discussion led by the external assurer. This will cover the whole apprenticeship standard including behaviours and the apprentice may draw on evidence from the SAT and evidence generated during the vocational competence evaluation process. The assessment specification makes clear which elements of the standard must be covered. The assessment organisation must ensure the apprentice and their employer are notified of the assessment specification at the start of their apprenticeship so that they can gather appropriate evidence during their training.

The vocational competence discussion will cover the whole apprenticeship standard. It also provides the opportunity for presentation of evidence to support specific elements from the standard that it has not been possible to demonstrate during the SAT. As the discussion will be graded, Trailblazer employers have specified the following as areas where the apprentice may wish to provide evidence to contribute to grading.

- Manufacture or assemble components within skill set.

- Understand and apply techniques to identify faults in systems and components to achieve satisfactory solutions.
- Understand and apply problem solving techniques successfully.
- Participate in continuous performance improvement.

Purpose

The purpose is to determine the extent to which the apprentice understands the requirements of his / her role as defined by the work-based learning guide and to explore understanding of areas not observed or explained during the SAT.

Test Methodology (conditions)

The VCD

a. will be in the format of a 1:1 discussion with the external assurer.
b. will last between 1 and 1.5 hours.
c. will take place in a room, free from distractions with no other people present.
d. may be recorded with the agreement of the employer and the apprentice.

Eligible Evidence

The apprentice may bring along any of the following to refer to during the VCD:

- Vocational competence evaluation log
- Training records
- NVQ Portfolio
- Qualification assessments
- Company specific documents (e.g., risk assessments, SOPs).
- E-portfolios
- Reflective learning logs
- Behaviours evaluation log

A full list of the assessment rules can be found in the assessment plan.

The apprentice will achieve a mark for this element of the end assessment that will contribute to the final grade of the apprenticeship award.

Scenario Case Study

The case study will describe a scenario and the apprentice will be presented with a standardised set of questions. The apprentice will complete a written situational analysis exercise that presents a scenario that requires them to adapt quickly and function effectively after minimal instruction on new equipment or in a new environment or under revised working practices. The exercise will test the apprentice's knowledge and understanding of core elements in the work-based learning guide. The assessment organisation will develop a bank of case studies that describe a range of contexts and settings. The emphasis of the exercise will be on the apprentice demonstrating how to transfer and apply their understanding of the principles of working safely, following quality procedures, and complying with regulations to a new setting.

Purpose

To ensure that the apprentice is able to transfer the knowledge and skills learnt during the apprenticeship to a prescribed situation. This assessment will take the form of a situational analysis of a given case study.

Test Methodology (conditions)

a. The case study will be invigilated by the external assurer.
b. The case study will last for 2.5 hours.
c. The case study will take place in a room, free from distractions.
d. The apprentice will record his / her analysis on the documentation prescribed for the case study.
e. The case study will be marked by the external assurer and moderation of the marked / graded paper will be conducted by the assessment organisation.
f. The case study will be given to the apprentice at the beginning of the assessment and not before.
g. At the end of the assessment, the case study will be collected by the external assurer

A full list of the assessment rules can be found in the assessment plan.

Moderation

Assessment organisations will undertake moderation of independent examiner and technical experts' decisions through observations and examination of documentation on a risk sampling basis, i.e., a minimum of 20% for experienced examiners / technical experts and 100% for new examiners / experts or where inconsistencies have been identified or where the technical expert has been recruited from the employer due to site requirements. Results cannot be confirmed until moderation has been completed.

Re-takes / re-sits

Re-takes / re-sits will only be available to apprentices who fail an end-point assessment element(s) i.e., they are not offered to apprentices wishing to move from Pass to Distinction. Apprentices may re-take / re-sit one or more elements within the six-month end-point assessment period. Re-take / re-sits outside of the six-month end-point assessment period would require all elements to be re-assessed. Re-sits / re-takes will not be awarded a grade higher than Pass. Apprentices must have a supportive action plan to prepare for the re-take / re-sit. Further re-takes / re-sits would be at the discretion of the employer following a 1:1 review with the apprentice to determine the suitability of the apprentice for further testing.

Final Grade

This formal end assessment for the apprenticeship award is graded and an apprentice must achieve a pass to gain a certificate of completion. The grading metrics are:

Apprenticeship Awarding Grading Matrix	Pass A pass will be awarded to individuals that achieve the specified level in all four elements.	Distinction A distinction will be awarded to individuals that achieve the specified level in all four elements
Synoptic Assessment Test	Pass	Pass
Behaviours Evaluation Log Gateway 2 score	Meets Expectations	Exceeds Expectations
Vocational Competence Discussion	Minimum 40	60 or above

Up to 80 marks		
Case Study Up to 60 marks	Minimum 10	15 or above

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 to the employer. 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 Core Competencies section of this document.

Core Competencies

Std Ref	Competences that need to be achieved by anyone being trained for the occupation. All elements are mandatory except those marked as specialisms, which should be included only when required for a specific job role or sector.
S1	**Work safely in a science manufacturing environment, understanding personal responsibility for Health, Safety and the Environment and principles of risk management**
S2	**Understand and follow quality procedures to meet the requirements of quality standards relevant to the workplace.**
S3	**Understand the internal and external regulatory environment pertinent to the sector and the sponsoring company and comply with regulations proficiently**
General Workplace Health and Safety	
1	Understand and comply with foundations of health and safety including responsibility for health and safety under HASWA
2	Understand the procedures for first aid relevant to your workplace
3	Understand and comply with risk assessment & control
4	Appropriate use of personal protective equipment i.e. respirators, breathing air hoods, PVC suits
5	Understand and practice site / plant safety requirements including for example • Fire • COSHH • Working at Height • COMAH • Confined Spaces • Permits to work
Process Safety	
6	Understand foundations of process safety
7	Understand the safe operating conditions of the plant
8	Work safely in a process environment or in a bio-manufacturing environment
9	Describe common risks and control measures
10	Understand systems to prevent loss of containment within your area of responsibility
11	Carry out key plant integrity checks within own area of responsibility
12	Understand and comply with emergency response procedures participating in exercises pertinent to role
13	Understand Hazardous area classification & DSEAR regulations and how they apply within area of responsibility
Environmental and Resource Management	
14	Understand the foundations of environmental management

Std Ref	Competences that need to be achieved by anyone being trained for the occupation. All elements are mandatory except those marked as specialisms, which should be included only when required for a specific job role or sector.
15	Understand the principles of control of emissions
16	Understand Management and control of waste
17	Understand environmental risk assessments (impact assessment)
18	Understand the concepts of resource efficiency applied to energy, water, and waste
19	Identify, organise, and use resources effectively to complete tasks, with consideration for cost, quality, safety, and environmental impact
20	Operate and act responsibly, taking account of the need to progress environmental, social, and economic outcomes simultaneously
Product Quality	
21	Maintain product quality throughout manufacture
22	Understand management of change principles and the impact of change on product quality
Regulatory Environment	
23	Understand the internal regulations pertinent to the sponsoring company & relative specialism in which they operate
24	Understand the external regulatory environment pertinent to the sponsoring company & relative specialism in which they operate (e.g., COMAH, NII, MHRA)
25	Demonstrate compliance with internal and external regulations pertinent to the sponsoring company & relative specialism in which they operate
26	Work reliably and effectively without close supervision, to the appropriate codes of practice
S4	**Understand and apply problem solving techniques.**
27	Demonstration of one or more problem solving techniques
28	Address routine and non-routine problems with equipment, plant, systems, and components, within defined areas
29	Identify problems and apply appropriate methods to identify causes and achieve satisfactory solutions
S5	**Participate in continuous performance improvement.**
30	Demonstrate the application of principles of continuous improvement to own performance
31	Participate in improving systems and processes within your work environment or demonstrate where you have personally improved and become more efficient
S6	**Understand the business environment in which the company operates including personal role within the organisation, ethical practice, and codes of conduct.**
32	Understand the business environment (customers, competitors etc.) in which the company operates
33	Understand personal role in the company and industry and those of others

Std Ref	Competences that need to be achieved by anyone being trained for the occupation. All elements are mandatory except those marked as specialisms, which should be included only when required for a specific job role or sector.
S7	**Safely use all necessary equipment, following the appropriate engineering techniques, procedures, and methods of relevance to complete the maintenance activity.**
34	Demonstrate the safe use of engineering hand tools and tools and equipment specific to each trade
35	Use engineering knowledge and understanding to apply technical and practical skills
36	Use appropriate scientific, technical, or engineering principles
37	Manage and apply safe systems of work
S8	**Prepare the work area for maintenance of plant, systems, or components.**
38	Prepare work areas for maintenance in line with Standard Operating Procedures
39	Determine and undertake equipment preparation, ensuring the security of tools and equipment that are used
S9	**Carry out planned routine and non-routine maintenance activities, effectively, efficiently, and safely.**
40	Confirm and define the condition of the engineering products or assets in accordance with specifications
41	Carry out maintenance activities in line with Standard Operating Procedures
42	Decontaminate plant equipment where appropriate
43	Accept responsibility for work of self or others
44	Accept, allocate and supervise, as appropriate, technical, and other tasks
S10	**Understand and apply the practices and procedures for planning to maintain systems and equipment, relevant to a single specialist discipline or a number of disciplines (mechanical, electrical, instrumentation) as required by the job role whilst following applicable codes and standards.**
45	Understand and apply the principles of planned maintenance and routine calibration in asset care
46	Understand the principles of change management
S11	**Understand and apply techniques to identify faults in plants, systems, and components to achieve satisfactory solutions.**
47	Identify problems and apply diagnostic methods to identify causes and achieve satisfactory solutions
S12	**Reinstate the work area after completing the maintenance of plant, systems, and components.**
48	Restore the work areas to a safe condition in accordance with agreed requirements and schedules
49	Update maintenance management systems
S13	**Conduct safe and effective exchange of plant and equipment to others and accept and confirm responsibility for the plant and equipment within the work area**
50	Carry out handover of process engineering plant and equipment
51	Understand permit to work systems and demonstrate compliance with local system

Std Ref	Competences that need to be achieved by anyone being trained for the occupation. All elements are mandatory except those marked as specialisms, which should be included only when required for a specific job role or sector.
S14	**Manufacture or assemble components within skill set.**
52	Use engineering tools, appliances, and equipment to manufacture items and components to specification
S15	**Understand how to identify obsolescence and end-of-life issues.**
53	Identify components that are worn, broken and that have no further use
54	Discard of components in line with local rules and environmental guidelines
S16	**Understand and apply information extracted from engineering drawings, specification diagrams and maintenance manuals and / or computer database systems including accurate data input.**
55	Use appropriate documentation in planned maintenance activities, during fault finding and for ordering replacement components and parts
56	Prepare and update drawings and diagrams as per trade discipline
57	Display clear understanding of Electrical, Mechanical and Instrumentation diagrams
58	Basic knowledge of relevant software packages e.g., MS WORD, EXCEL, LIMS where appropriate to role
S17	**Understand and apply technical knowledge relevant to a single specialist discipline or a number of disciplines (mechanical, electrical, instrumentation) as required by the job role.**
59	Understand and apply technical knowledge relevant to a single specialist discipline or a number of disciplines (mechanical, electrical, instrumentation) as required by the job role.
60	Demonstrate cross discipline knowledge where required by organisation
S18	**Develop and apply theoretical knowledge of engineering and its application to the required sector & job role. This should be acquired through a qualification set at level 3 (or above) that is approved by a licensed professional engineering institution.**
61	Undertake and successfully complete a technical qualification relative to trade and approved by professional engineering institution

A full list of the competencies can be found in the Work Based Learning Guide.

Specialisms

In addition to the core competences these are specific to a work context and need to be achieved by anyone being trained for a job role in that work context.

In the context of the science industry and all three specialist pathways below, the following equipment and assets may be included:

- Actuators
- Distribution systems
- Cabling systems
- Circuit boards
- Circuit protection
- Components of process or manufacturing systems

- Compressors
- Conveyers
- Electrical panels
- Flow devices
- Gear boxes
- Heat exchangers
- HVAC systems
- Hydraulic systems
- Level devices
- Lighting systems • Motors (AC / DC)
- Pipework systems
- Plant items
- Pneumatic systems
- Pumps
- Pressure devices
- Pressure vessels
- Protection devices
- Rotating equipment
- Temperature devices
- Transmission systems
- Turbines
- Valves

Std Ref	A	Electrical
7	A1	Understand and safely use hand tools and associated trade tools
10	A2	Adjust electrical plant and equipment to meet operating requirements
14	A3	Assemble components of electrical plant and equipment
9	A4	Carry out planned maintenance procedures on electrical plant and equipment
11	A5	Diagnose and correct electrical faults (plant)
11	A6	Diagnose and determine the causes of faults in electrical plant and equipment
9	A7	Dismantle electrical plant and equipment
13	A8	Establish that an engineering maintenance process has been completed to specification
9, 10	A9	Inspection, testing and commissioning of electrical installations (plant)
9, 10	A10	Monitor the performance and condition of electrical plant and equipment

Std Ref	A	Electrical
9, 10	A11	Position and install electrical plant and equipment
9, 10	A12	Remove components from electrical plant and equipment
9, 10	A13	Repair components of electrical plant and equipment to operational condition
9, 10	A14	Replace components in electrical plant and equipment
9, 10	A15	Review effectiveness of condition monitoring activities

Std Ref	B	Mechanical
7	B1	Understand and safely use hand tools and associated trade tools
10	B2	Adjust mechanical plant and equipment to meet operating requirements
9	B3	Analyse the test results relating to the tested mechanical plant and equipment
9, 10	B4	Assess the performance and condition of mechanical plant and equipment
9	B5	Carry out planned maintenance procedures on mechanical plant and equipment to meet operating requirements
11	B6	Diagnose and determine the causes of faults in mechanical plant and equipment
9	B7	Dismantle mechanical plant and equipment
13	B8	Hand over or take control of mechanical plant and equipment
9	B9	Maintaining mechanical equipment
9, 10	B10	Monitor the performance and condition of mechanical plant and equipment
9, 10	B11	Remove components from mechanical plant and equipment
9, 10	B12	Replace components in mechanical plant and equipment
9, 10	B13	Review effectiveness of condition monitoring activities
9, 10	B14	Test the performance and condition of mechanical plant and equipment

Std Ref	C	Instrumentation
7	C1	Understand and safely use hand tools and associated trade tools
10	C2	Adjust instrument and control systems to meet operating requirements
14	C3	Assemble components of instrument and control systems
9, 10	C4	Assess the performance and condition of instrument and control systems
9	C5	Carry out planned maintenance procedures on instrument and control systems
9	C6	Carry out maintenance on instrumentation and control equipment
11	C7	Determine the feasibility of repair of components from instrument and control systems
11	C8	Diagnose and determine the causes of faults in instrument and control systems
9	C9	Dismantle instrument and control systems
9	C10	Maintain instrumentation and control systems
9, 10	C11	Monitor the performance and condition of instrument and control systems
9, 10	C12	Perform asset condition monitoring
9, 10	C13	Position and install instrument and control systems
9, 10	C14	Remove components from instrument and control systems
9, 10	C15	Repair components of instrument and control systems to operational condition
9, 10	C16	Replace components from instrument and control systems
9, 10	C17	Review effectiveness of condition monitoring activities
9, 10	C18	Test the performance and condition of instrument and control systems

Behaviours Evaluation Assessment Criteria

	Does Not Meet Expectation Apprentice failed to demonstrate an acceptable level of behaviour. Improvement is required	Meets Expectations Apprentice demonstrated an acceptable level of behaviour and meets the minimum level of behaviour expected	Exceeds Expectations Apprentice demonstrated consistent and positive behaviours in this area that reflect those expected of outstanding apprentices
Personal Responsibility	Demonstrate personal responsibility towards safety systems (incl. risk management and environment)		
Assessment Criteria	Little evidence of personal responsibility to safety systems.	Good personal responsibility towards safety systems.	Exhibits high standards of personal responsibility toward safety systems. Seeks to influence the behaviour of others.
	Tries to play down incidents in which they are involved.	Responds positively to suggestions for own improvements in personal responsibility for safety issues.	Actively monitors the safety of self and others, challenging and making suggestions where appropriate.
Communication	Communicate effectively using a full range of skills: speaking; listening; writing; body language; presentation		
Assessment Criteria	Misinterprets or is slow to comprehend oral and / or written instructions.	Readily comprehends oral and / or written instructions when first presented.	Superior comprehension of oral and / or written instructions. Checks back to avoid any misunderstanding.
	Communications are vague or poorly written or spoken. Difficulty conveying meaning to others.	Passes on information both verbal and written, in a way that is easily understood	Is able to adapt both verbal and written communication to be understood by different audiences (e.g., peer, supervisor, senior manager, and visitor).
	Will not ask questions and demonstrates little willingness to listen.	Listens and will question and challenge appropriately to enhance own understanding.	Listens and questions to enhance own and others understanding.

	Does Not Meet Expectation Apprentice failed to demonstrate an acceptable level of behaviour. Improvement is required	Meets Expectations Apprentice demonstrated an acceptable level of behaviour and meets the minimum level of behaviour expected	Exceeds Expectations Apprentice demonstrated consistent and positive behaviours in this area that reflect those expected of outstanding apprentices
			Supports and acknowledges contributions from others
	Unable to effectively present personal viewpoint.	Able to effectively present personal viewpoint.	Able to influence others to see personal viewpoint.
	Unwilling to see other people's point of view	Receptive to other people's point of view.	Ability to reason from different points of view.
Teamwork	Work and interact effectively within a team		
Assessment Criteria	Unwilling to contribute during team discussions / problem solving.	Makes a useful contribution during team discussions / problem solving.	Contributes and willing to lead team-based discussions / problem solving.
	Can reduce morale and enthusiasm within the team.	A good team member gets on well with colleagues.	Builds working relationships between team and other groups. Seeks to diffuse conflict situations where they arise.
	Exhibits negative behaviour concerning team / organisational mission.	Demonstrates knowledge and understanding of team / organisation mission.	A strong team player helps bind the team together to achieve team / organisation mission.
	Does not accept responsibility for own impact on team performance.	Works cooperatively with others to achieve overall team goals.	Puts team goals ahead of personal achievement and recognition.
Independence and Responsibility	Work independently and take responsibility for initiating and completing tasks		
Assessment Criteria	Inclined to wait for direction on work tasks.	Normally does not need to be told what to do next, can be trusted to complete tasks.	Looks ahead and progresses work in areas of the job.

	Does Not Meet Expectation Apprentice failed to demonstrate an acceptable level of behaviour. Improvement is required	Meets Expectations Apprentice demonstrated an acceptable level of behaviour and meets the minimum level of behaviour expected	Exceeds Expectations Apprentice demonstrated consistent and positive behaviours in this area that reflect those expected of outstanding apprentices
	Regularly needs to be told what to do or how to do it.	Identifies obstacles to achieving work assigned and escalates.	Will seek to resolve obstacles to achieving work assigned themselves before escalating.
	Supervision required to progress work.	Can be relied on to manage their work with little supervision.	Holds themselves accountable for their own performance.
	Over reliance on supervisor for motivation.	Self-motivated and deals with work / learning balance in a positive way.	Maintains motivation and encourages others to do the same
Impact of Work	Understand impact of work on others, especially where related to diversity and equality		
Assessment Criteria	Others feel the need to recheck their work or have to finish off the job after them. Work rarely makes a contribution to team quality.	Works to the required standard of accuracy, neatness, and thoroughness. Often makes valued contributions to team quality.	Has a reputation within the work group for doing jobs right first time, every time. Consistently makes a valued contribution to team quality.
	Little respect for the values of others.	Respects the value of others.	Actively encourages work group to respect the values of others
	Has difficulty being tactful, considerate, and respectful in dealing with others.	Usually tactful, considerate, and respectful in dealing with others.	Always tactful, considerate, and respectful in dealing with others.
Time Management	Accepts responsibility for managing own time and workload within a given plan to complete work to schedule		
Assessment Criteria	Does not deliver consistently and can waste time on non-essentials.	Continually demonstrates efficient use of work time.	Continuously strives for improved productivity.
	Unreliable timekeeping	Timekeeping complies with company protocols.	Encourages others to comply with company timekeeping protocols.

	Does Not Meet Expectation Apprentice failed to demonstrate an acceptable level of behaviour. Improvement is required	**Meets Expectations** Apprentice demonstrated an acceptable level of behaviour and meets the minimum level of behaviour expected	**Exceeds Expectations** Apprentice demonstrated consistent and positive behaviours in this area that reflect those expected of outstanding apprentices
	Not fully prepared in advance holds up group activities.	Always prepares in advance ready to participate in group activities.	Encourages others to prepare in advance for group activities
Change Management	Ability to handle change and respond to change management processes		
Assessment Criteria	Has difficulty adjusting to changes in workload or assignments.	Is flexible, willing, and able to respond to changes in work situations and / or learn new skill.	Capable of supporting others with change in work situations and or learning new skill.
	Resists change or innovation or takes a “wait and see” approach.	Works hard to implement successful change in areas of responsibility as directed by supervisor.	Recommends changes to improve own work and work of others and implements as agreed with supervisor.
	Does not value own contribution.	Able to demonstrate examples of situations when they have changed practice or personal behaviour.	Evidence of influencing change of practice or personal behaviour by others.

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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