

Engineering Operative

Level 2 Apprenticeship Standard (ST0537)

Specification



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.

Version History

Version	Updates
1.2	This document relates to the Engineering Operative assessment plan version 1.3.

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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.

Engineering Operatives are predominantly involved in engineering operations which are key to the success of the manufacturing and engineering sector allowing employers to grow their business while developing a work force with the relevant skills and knowledge to enhance the sector.

The role covers a wide range of common and job specific skills sets that can be transferred across the manufacturing engineering industry sectors during the course of their careers. Dependent on the sector that they are employed in there may be subtle differences in terms of composition and application of the job role specific skills and knowledge they will require, however the core skills and knowledge will be the same regardless of the sector/area they work in.

Engineering Operatives will have clear reporting lines with anything outside their role and responsibility. They will work individually or as part of a team to carry out a range of engineering operations which could include ensuring machines and equipment used are maintained and serviceable, dealing with breakdowns, restoring components and systems to serviceable condition by repair and replacement; operating a variety of machines (CNC or Conventional); assembling and repairing machine and press tools, dies, jigs, fixtures and other tools; fabrication/installation of a wide variety of other sheet fabrications and equipment and; fabrication and assembly of metal parts joining techniques; preparing materials and equipment for engineering processes, providing technical support including communications software, test tools, performance, capacity planning, and e-commerce technology as required.

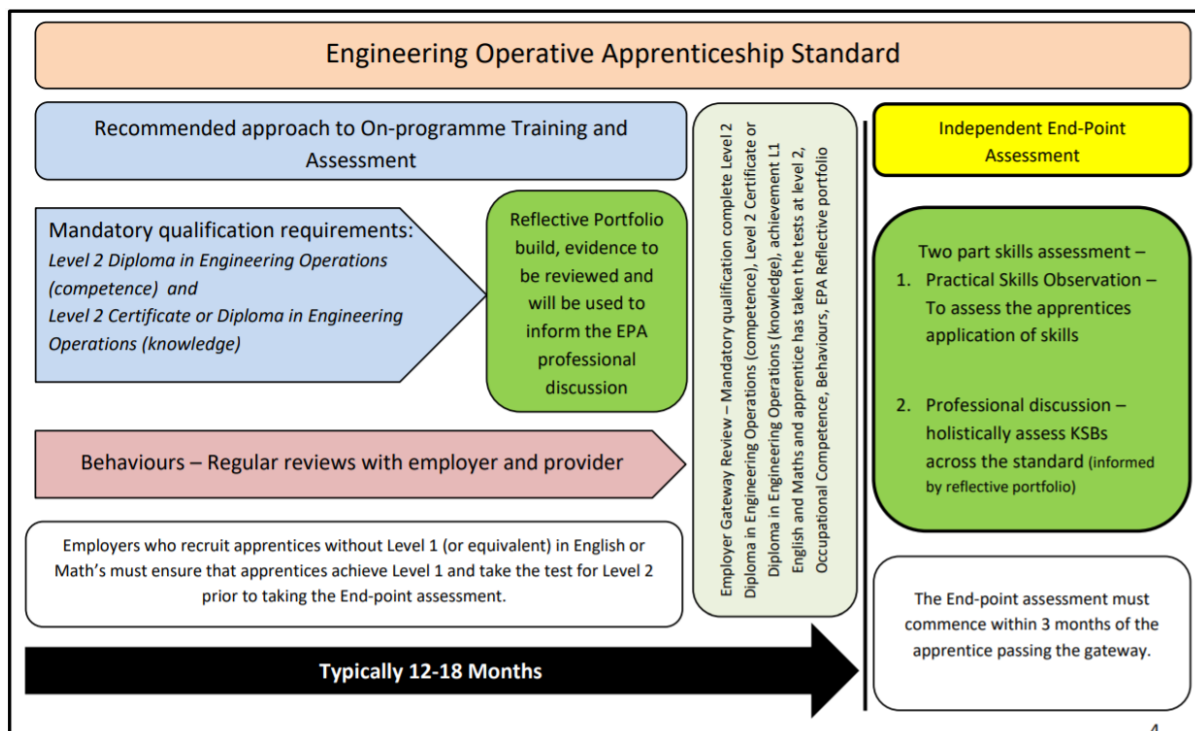
Engineering Operatives must comply with statutory regulations and organisation safety requirements including any environmental compliance procedures and systems; Identify hazards and hazardous situations; Prepare the work area and equipment; Obtain and follow the appropriate job documentation and work instructions; Extract the necessary data and information from specifications and related documentation; Carry out the engineering activities in line with their job role; Carry quality checks as required; working with minimum supervision either individually or as part of a team and will be responsible for their own actions and for the quality and accuracy and timely delivery of the work they undertake.

An Engineering Operative must have the core requirements stipulated within the assessment plan and demonstrate the specialist requirements in **ONE** job specific role.

Prior Learning and Qualifications

Individual employers will set the selection criteria for their Apprenticeships.

Overview



The employer and training provider will use the mandatory Level 2 Diploma in Engineering Operations (competence) and Level 2 Certificate or Diploma in Engineering Operations (knowledge) within the Engineering Operative Standard to develop a training plan to ensure that the apprentice receives the appropriate level of knowledge and skills to advance to and successfully complete the independent End-point Assessment (EPA).

The EPA will be completed after a minimum of 12 months training has taken place and at a time that accommodates work scheduling and cost-effective planning of resources. The EPA must commence within 3 months from confirmation that the apprentice has met the gateway requirements.

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

- Before going forward for the EPA, the employer must be satisfied that the apprentice has: satisfactorily completed training covering the skills, knowledge and behaviours as described in the standard

- achieved all mandatory qualifications – Level 2 Diploma in Engineering Operations (competence) and Level 2 Certificate or Diploma in Engineering Operations (knowledge)
- achieved English and mathematics qualification in line with the apprenticeship funding rules
- apprentices must have completed the required amount of off-the-job training specified by the apprenticeship funding rules
- sufficient evidence in the form of a reflective portfolio to allow the apprentice to consistently demonstrate knowledge, skills and behaviours as described in the standard. Guidance on what should be included in the reflective portfolio can be found within the professional discussion section.

Assessment Methods

The End-Point Assessment consists of 2 assessment methods:

1. Practical Skills Observation
2. Professional Discussion

Assessment Method 1: Practical Skills Observation

The practical observation will be carried out at the apprentice's place of work or an in-centre practical assessment in a suitable area away from the workplace where it is not feasible to use the employer's premises and will be carried out by an end-point assessor, approved by SIAS. During the process the apprentice will be expected to demonstrate to the end-point assessor the application of the core knowledge, skills and behaviours (KSBs) of specific job-related knowledge and skills as outlined in the assessment plan. Apprentices will be observed and will be assessed against both the core and their chosen specific job role option KSBs as identified within the standard. Typically, this will be covered within one task but may be covered over two separate tasks if required. During the observation the end-point assessor may ask between 3-6 open questions to assess the related underpinning knowledge. They may ask follow-up questions where clarification is required. Questioning must be completed within the total time allowed for the observation. Questions may be asked both during and upon completion of the observation.

KSBs observed and answers to questions will be documented by the end-point assessor.

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

Observations must be carried out over an assessment time period of 2 hours +/- 10 minutes. There may be breaks during the observation to allow the apprentice to move from one location to another.

Observations must be conducted in a realistic work situation under normal conditions. It is anticipated that SIAS will use the apprentice's normal work environment to carry out the observation but if this is not possible a suitable alternative area can be used.

End-point assessors may observe up to a maximum of 3 apprentices at any one time, to allow for cost effective use of resources while maintaining quality and rigour.

SIAS will supply an observation specification sheet for each of the job roles being assessed and a scorecard which will be used by the end-point assessor to identify and record the elements of the standard and grade for the practical skills observation and give examples of open question types. The observation sheets and scorecards will be reviewed regularly (at least once a year) to ensure they remain fit for purpose. The practical skills observation will be graded either pass or fail. To achieve a pass for the practical skills observation the apprentice must achieve all of the pass criteria that is laid out in the grading matrix from the assessment plan.

Practical Skills Observation Grading Descriptors

Higher Order Skills to be Assessed	Lower Order Skills	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core skills pass criteria and all of the pass criteria for one of the specialist job role options as laid out below
Core Skills to be Assessed			
Works safely, efficiently, and effectively at all times ensuring that all appropriate legislation, regulation, and environmental compliance has been adhered to in-line with company policies, procedures, and practice	<p>S1 Work safely at all times, complying with health and safety legislation, regulations, environmental compliance procedures and systems and other relevant guidelines</p> <p>S5 Obtain and follow the correct documentation, specifications, and work instructions in accordance with time constraints and the roles and responsibilities identified for the engineering activities, extracting the necessary data/information from specification and related documentation</p> <p>S6 Select and use appropriate tools, equipment, and materials to carry out the engineering operation</p> <p>S8 Work efficiently and effectively at all times maintaining workplace organisation and minimising waste</p>	<p>Insufficient evidence of demonstrating they have the ability to work safely in an engineering environment and could potentially put self, colleagues, the environment or public at risk by their actions.</p> <p>Evidence including:</p> <ul style="list-style-type: none"> • Failure to identify and deal appropriately with any risks, hazards, hazardous situations and problems. • Failure to use relevant PPE • Failure to identify and select the appropriate tools, equipment and materials. • Fails to identify problems within the engineering environment. 	<p>Demonstrates their ability to work safely in an engineering environment to approved procedures.</p> <p>Evidence including:</p> <p>P1 Can identify, assess, and control health and safety risks within work environment as per company procedures and guidelines and record the necessary information appropriately.</p> <p>P2 Can select and use appropriate tools, equipment, and materials to carry out the engineering operations.</p> <p>P3 Can deal with problems that occur within the engineering environment.</p> <p>P4 Can work efficiently and effectively while adhering to appropriate job instructions.</p>
Specialist Job Role Option 1 – Maintenance Role: Additional Skills to be Assessed			
Carries out fault-finding and	S9 Carry out fault location on appropriate equipment using suitable maintenance diagnostic techniques	Insufficient evidence of demonstrating they followed relevant work	Demonstrates their ability carry out maintenance activities in line with work instructions.

Higher Order Skills to be Assessed	Lower Order Skills	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core skills pass criteria and all of the pass criteria for one of the specialist job role options as laid out below
maintenance activities in-line with company processes, procedures, and practice	S10 Carry out maintenance activities in line with work instructions	instructions and applying correct procedures. Evidence including: <ul style="list-style-type: none"> • Failure to carry out fault location and does not use suitable diagnostic techniques. • Failure to follow work instructions while carrying out maintenance activities. 	Evidence including: P5 Follows the correct work instructions as part of their work commitments and shows an understanding of any operating rules in place within the instruction. P6 Carries out fault location using suitable diagnostic techniques. P7 Followed the correct work instructions while carrying out the maintenance activities.
Specialist Job Role Option 2 – Mechanical Manufacturing Engineering Role: Additional Skills to be Assessed			
Produces parts to the required specification	S14 Mount and set the required work holding devices S15 Produce individual components, sub-assemblies or completed assemblies using mechanical manufacturing techniques	Insufficient evidence of demonstrating they can produce components sub-assemblies or completed assemblies to the required specification. Evidence including: <ul style="list-style-type: none"> • Failure to produce individual components, sub-assemblies or completed assemblies using mechanical manufacturing techniques. • Failure to mount and set the required work holding devices. 	Demonstrates their ability to produce components sub-assemblies or completed assemblies to the required specification. Evidence including: P8 Follows the appropriate mechanical manufacturing techniques to produce individual components, sub-assemblies or completed assemblies, showing an understanding of the techniques used. P9 Mounts and sets the required work holding devices.

Higher Order Skills to be Assessed	Lower Order Skills	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core skills pass criteria and all of the pass criteria for one of the specialist job role options as laid out below
Specialist Job Role Option 3 - Electrical and Electronic Engineering Role: Additional Skills to be Assessed			
Tests and assembles parts to the required specification	<p>S18 Assemble and test a range of electrical components for example component panels, isolator switches, fuses, circuit breakers, contactors, relays, rail mounted terminal blocks, etc.</p> <p>S19 Assemble and test a range of electronic components for example resistors, capacitors, diodes, transistors, etc.</p>	<p>Insufficient evidence of demonstrating they can assemble and test a range of electrical and electronic components.</p> <p>Evidence including:</p> <ul style="list-style-type: none"> • Failure to assemble and test a range of electrical components. • Failure to assemble and test a range of electronic components. 	<p>Demonstrates their ability to assemble and test a range of electrical and electronic components.</p> <p>Evidence including:</p> <p>P10 Follows the appropriate electrical assembly and testing, showing an understanding of the techniques used.</p> <p>P11 Follows the appropriate electronic assembly and testing, showing an understanding of the techniques used.</p>
Specialist Job Role Option 4 - Fabrication Role: Additional Skills to be Assessed			
Produces parts to the required specification	<p>S22 Join the materials using the appropriate methods and techniques</p> <p>S23 Produce components which meet the specification requirements</p>	<p>Insufficient evidence of demonstrating they can produce components which meet the specification requirements.</p> <p>Evidence including:</p> <ul style="list-style-type: none"> • Failure to produce components which meet the specification requirements. • Failure join the materials in line with work instructions and required specification. 	<p>Demonstrates their ability to produce components which meet the specification requirements.</p> <p>Evidence including:</p> <p>P12 Follows the correct work instructions to produce components as part of their work commitments and shows an understanding of any operating rules in place within the instruction.</p> <p>P13 Can produce components which meet the specification requirements.</p> <p>P14 Can join the materials using the appropriate methods and techniques.</p>

Higher Order Skills to be Assessed	Lower Order Skills	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core skills pass criteria and all of the pass criteria for one of the specialist job role options as laid out below
Specialist Job Role Option 5 - Materials, Processing, Finishing Role: Additional Skills to be Assessed			
Prepare for and carryout material processing finishing operations to the required specification efficiently.	<p>S26 Prepare equipment, tooling, materials, etc. and complete set up activities before carrying out the materials, processing, finishing operation</p> <p>S27 Carry out the material, processing, finishing operation in line with specific safe working practices and specification requirements</p>	<p>Insufficient evidence of demonstrating they can carry out material, processing, finishing operations in line with specification requirements.</p> <p>Evidence including:</p> <ul style="list-style-type: none"> • Failure to carry out the material, processing, finishing operation in line with specific safe working practices and specification requirements. • Failure to prepare equipment, tooling, materials and complete appropriate set up activities. 	<p>Demonstrates their ability to carry out material, processing, finishing operations which meet the specification requirements.</p> <p>Evidence including:</p> <p>P15 Follows the correct work instructions to carry out material, processing, finishing operation as part of their work commitments and shows an understanding of any operating rules in place within the instruction.</p> <p>P16 Can prepare equipment, tooling, materials and complete appropriate set up activities.</p>
Specialist Job Role Option 6 - Technical Support Role: Additional Skills to be Assessed			
Prepare and carryout the technical support activities in line with company procedures, processes and	<p>S30 Prepare equipment, tooling, materials, etc. and complete set up activities before carrying out the technical support activity</p> <p>S31 Carry out the technical support operation in line with specific safe working practices and specification requirements</p>	<p>Insufficient evidence of demonstrating they can carry out technical support operations in line with specification requirements.</p> <p>Evidence including:</p> <ul style="list-style-type: none"> • Failure to carry out the technical support operation in line with specific safe working 	<p>Demonstrates their ability to carry out technical support role which meet the specification requirements.</p> <p>Evidence including:</p> <p>P17 Follows the correct work instructions to carry out technical support operation as part of their work commitments and shows an</p>

Higher Order Skills to be Assessed	Lower Order Skills	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core skills pass criteria and all of the pass criteria for one of the specialist job role options as laid out below
practices		practices and specification requirements. <ul style="list-style-type: none"> Failure to prepare equipment, tooling, materials and complete appropriate set up activities. 	understanding of any operating rules in place within the instruction. P18 Can prepare equipment, tooling, materials and complete appropriate set up activities.

Higher Order Knowledge to be Assessed	Lower Order Knowledge	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core knowledge pass criteria and all of the pass criteria for one of the specialist job role options as laid out below
Core Knowledge to be Assessed			
Knows how to complete tasks, solve problems, and implement preventive measures in-line with company procedures, practices, and processes	K1 How to obtain the necessary job instructions, engineering drawings and specifications and how to interpret them K4 Engineering operational practices, processes and procedures K5 Potential problems that can occur within the engineering operations and how they can be avoided	Insufficient knowledge of how to obtain the necessary job instructions, engineering drawings and specifications and how to interpret them Evidence including: <ul style="list-style-type: none"> Cannot explain where to obtain the necessary job instructions, engineering drawings and specifications when questioned. Cannot interpret necessary job instructions, engineering 	Demonstrates their knowledge of how to obtain the necessary job instructions, engineering drawings and specifications and how to interpret them. Evidence including: P19 Can explain where to obtain the necessary job instructions, engineering drawings and specifications when questioned. P20 Can interpret necessary job instructions, engineering drawings and specifications when questioned.

Higher Order Knowledge to be Assessed	Lower Order Knowledge	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core knowledge pass criteria and all of the pass criteria for one of the specialist job role options as laid out below
		<p>drawings and specifications when questioned.</p> <ul style="list-style-type: none"> cannot outline the operational practices, processes and procedures when questioned. Cannot outline the potential problems that can occur within the engineering operations when questioned. cannot explain the actions that can be taken to avoid problems from occurring when questioned. 	<p>P21 Can outline the specific operational practices, processes and procedures relevant to their work activities when questioned.</p> <p>P22 Can outline the potential problems that can occur within the engineering operations when questioned.</p> <p>P23 Can explain the actions that can be taken to avoid problems from occurring when questioned.</p>
<p>Knows how to work towards company targets flexibly</p>	<p>K3 Their individual roles and responsibilities within the organisation and the flexibility required to support the achievement of company targets</p>	<p>Insufficient knowledge of their individual roles and responsibilities and the flexibility required to support the achievement of company targets.</p> <p>Evidence including:</p> <ul style="list-style-type: none"> Cannot explain their individual roles and responsibilities when questioned. Cannot explain the importance of flexibility required to support the achievement of company targets when questioned. 	<p>Demonstrates their knowledge of their individual roles and responsibilities and the flexibility required to support the achievement of company targets.</p> <p>Evidence including:</p> <p>P24 Can explain their individual roles and responsibilities when questioned.</p> <p>P25 Can explain the importance of flexibility required to support the achievement of company targets when questioned.</p>
<p>Specialist Job Role Option 1 – Maintenance Role: Additional Knowledge to be Assessed</p>			

Higher Order Knowledge to be Assessed	Lower Order Knowledge	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core knowledge pass criteria and all of the pass criteria for one of the specialist job role options as laid out below
<p>Knows how to plan and carry out tasks in line with appropriate legislation, regulation and environmental requirements and in line with company procedures and practice</p>	<p>K6 Maintenance planning K8 Specific safe working practices, maintenance procedures and environmental regulations that need to be observed</p>	<p>Insufficient knowledge of maintenance operations. Evidence including:</p> <ul style="list-style-type: none"> • Cannot describe the maintenance planning operation in sufficient detail when questioned. • Cannot describe the specific safe working practices, maintenance procedures and environmental regulations that need to be observed when questioned. 	<p>Demonstrates their understanding of a maintenance operations. Evidence including: P26 Can use technical language and detail covering the key elements of the knowledge relating to the maintenance activities they have been involved in when questioned. P27 Can describe the planning carried out prior to the start of the maintenance operation when questioned. P28 Can describe the specific safe working practices, maintenance procedures and environmental regulations that need to be observed when questioned.</p>
Specialist Job Role Option 2 – Mechanical Manufacturing Role: Additional Knowledge to be Assessed			
<p>Knows the uses of a range of manufacturing equipment and the associated quality</p>	<p>K9 Specific equipment operating parameters K11 Specific quality specifications for mechanical manufacturing operations</p>	<p>Insufficient knowledge of mechanical manufacturing operations. Evidence including:</p> <ul style="list-style-type: none"> • Cannot describe the equipment operating parameters when questioned. • Cannot describe the specific quality specifications for 	<p>Demonstrates their understanding of a mechanical manufacturing operations. Evidence including: P29 Can use of technical language and detail covering the key elements of the knowledge relating to the mechanical manufacturing activities they have been involved in when questioned.</p>

Higher Order Knowledge to be Assessed	Lower Order Knowledge	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core knowledge pass criteria and all of the pass criteria for one of the specialist job role options as laid out below
outputs of that equipment.		mechanical manufacturing operations.	<p>P30 Can describe the specific equipment operating parameters when questioned.</p> <p>P31 Can describe the specific quality specifications for mechanical manufacturing operations.</p>
Specialist Job Role Option 3 – Electrical and Electronic Engineering Role: Additional Knowledge to be Assessed			
Knows the correct uses cables for a wide range of tasks in-line with safe working practices and procedures.	<p>K12 Cable types and where they should be used</p> <p>K14 Specific safe working practices, isolation procedures and safe reinstating of equipment or system that need to be observed</p>	<p>Insufficient knowledge of electrical and electronic engineering operations</p> <p>Evidence including:</p> <ul style="list-style-type: none"> • Cannot describe the different cable types and where they have used them when questioned. • Cannot describe the specific safe working practices, isolation procedures and safe reinstating of equipment or system that need to be observed. 	<p>Demonstrates their understanding of electrical and electronic engineering operations.</p> <p>Evidence including:</p> <p>P32 Can use of technical language and detail covering the key elements of the knowledge relating to the electrical and electronic engineering activities they have been involved in when questioned.</p> <p>P33 Can describe the different cable types and where they have used them when questioned.</p> <p>P34 Can describe the specific safe working practices, isolation procedures and safe reinstating of equipment or system that need to be observed.</p>
Specialist Job Role Option 4 - Fabrication role: Additional Knowledge to be Assessed			

Higher Order Knowledge to be Assessed	Lower Order Knowledge	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core knowledge pass criteria and all of the pass criteria for one of the specialist job role options as laid out below
<p>Knows how to prepare appropriately for tasks in-line with safe working practices and procedures.</p>	<p>K15 Specific marking out and preparation techniques K17 Specific safe working practices, isolation procedures and safe reinstating of equipment or system that need to be observed</p>	<p>Insufficient knowledge of fabrication operations. Evidence including:</p> <ul style="list-style-type: none"> • Cannot describe the marking out and preparation techniques when questioned. • Cannot describe the specific safe working practices, isolation procedures and safe reinstating of equipment or system that need to be observed. 	<p>Demonstrates their understanding of fabrication operations. Evidence including: P35 Can use of technical language and detail covering the key elements of the knowledge relating to the fabrication activities they have been involved in when questioned. P36 Can describe the marking out and preparation techniques and where they have used them when questioned. P37 Can describe the specific safe working practices, isolation procedures and safe reinstating of equipment or system that need to be observed.</p>
Specialist Job Role Option 5 - Materials, Processing, Finishing Role: Additional Knowledge to be Assessed			
<p>Knows the uses of a range of equipment and the associated quality outputs of that equipment.</p>	<p>K18 Specific machinery, equipment and tooling required for the materials, processing, finishing operation K20 Specific quality specifications for materials, processing, finishing operations</p>	<p>Insufficient knowledge of materials, processing, finishing operations Evidence including:</p> <ul style="list-style-type: none"> • Cannot describe the machinery, equipment and tooling required for the materials, processing, finishing operation when questioned. • Cannot describe the specific quality specifications for 	<p>Demonstrates their understanding of materials, processing, finishing operations. Evidence including: P38 Can use of technical language and detail covering the key elements of the knowledge relating to the materials, processing, finishing activities they have been involved in when questioned.</p>

Higher Order Knowledge to be Assessed	Lower Order Knowledge	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core knowledge pass criteria and all of the pass criteria for one of the specialist job role options as laid out below
		materials, processing, finishing operations.	<p>P39 Can describe the machinery, equipment and tooling required for the materials, processing, finishing operation and where they have used them when questioned.</p> <p>P40 Can describe the specific quality specifications for materials, processing, finishing operations.</p>
Specialist Job Role Option 6 – Technical Support Role: Additional Knowledge to be Assessed			
Knows the uses of a range of manufacturing equipment, the quality requirements of their tasks and the safe working practices.	<p>K21 Specific machinery, equipment and tooling required for the technical support operation</p> <p>K23 Specific safe working practices, procedures and quality requirements that need to be observed</p>	<p>Insufficient knowledge technical support operations.</p> <p>Evidence including:</p> <ul style="list-style-type: none"> • Cannot describe the machinery, equipment and tooling required for the technical support operation when questioned. • Cannot describe the specific safe working practices, procedures and quality requirements that need to be observed. 	<p>Demonstrates their understanding of technical support operations.</p> <p>Evidence including:</p> <p>P41 Can use of technical language and detail covering the key elements of the knowledge relating to the technical support activities they have been involved in when questioned.</p> <p>P42 Can describe the machinery, equipment and tooling required for the technical support operation and where they have used them when questioned.</p> <p>P43 Can describe the specific safe working practices, procedures and quality requirements that need to be observed.</p>

Core Behaviours to be Assessed		Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the behaviours pass criteria as laid out below
	<p>B1 Personal responsibility and resilience: Comply with the health and safety guidance and procedures, be disciplined and have a responsible approach to risk, work diligently regardless of how much they are being supervised, accept responsibility for managing time and workload and stay motivated and committed when facing challenges</p>	<p>Cannot demonstrate safe working practices.</p>	<p>Demonstrates they comply with H&S guidance and procedures. Evidence including: P44 Always demonstrates understanding and importance of H&S requirements. P45 Dynamically assesses and controls risk in current environment.</p>

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

Practical Skills Observation Knowledge, Skills and Behaviours

Ref	Grading descriptor
Knowledge	
K1	How to obtain the necessary job instructions, engineering drawings and specifications and how to interpret them
K3	Their individual roles and responsibilities within the organisation and the flexibility required to support the achievement of company targets
K4	Engineering operational practices, processes and procedures
K5	Potential problems that can occur within the engineering operations and how they can be avoided
Specialist Job Role Option 1 – Maintenance Role	
K6	Maintenance planning
K8	Specific safe working practices, maintenance procedures and environmental regulations that need to be observed
Specialist Job Role Option 2 – Mechanical Manufacturing Role	
K9	Specific equipment operating parameters
K11	Specific quality specifications for mechanical manufacturing operations
Specialist Job Role Option 3 – Electrical and Electronic Engineering Role	
K12	Cable types and where they should be used
K14	Specific safe working practices, isolation procedures and safe reinstating of equipment or system that need to be observed
Specialist Job Role Option 4 – Fabrication Role	
K15	Specific marking out and preparation techniques
K17	Specific safe working practices, isolation procedures and safe reinstating of equipment or system that need to be observed
Specialist Job Role Option 5 – Materials, Processing, Finishing Role	
K18	Specific machinery, equipment and tooling required for the materials, processing, finishing operation
K20	Specific quality specifications for materials, processing, finishing operations
Specialist Job Role Option 6 – Technical Support Role	
K21	Specific machinery, equipment and tooling required for the technical support operation
K23	Specific safe working practices, procedures and quality requirements that need to be observed
Skills	
S1	Work safely at all times, complying with health and safety legislation, regulations, environmental compliance procedures and systems and other relevant guidelines
S5	Obtain and follow the correct documentation, specifications and work instructions in accordance with time constraints and the roles and responsibilities identified for the engineering activities, extracting the necessary data/information from specification and related documentation
S6	Select and use appropriate tools, equipment and materials to carry out the engineering operation
S8	Work efficiently and effectively at all times maintaining workplace organisation and minimising waste
Specialist Job Role Option 1 – Maintenance Role	

S9	Carry out fault location on appropriate equipment using suitable maintenance diagnostic techniques
S10	Carry out maintenance activities in line with work instructions
Specialist Job Role Option 2 – Mechanical Manufacturing Role	
S14	Mount and set the required work holding devices
S15	Produce individual components, sub-assemblies or completed assemblies using mechanical manufacturing techniques
Specialist Job Role Option 3 – Electrical and Electronic Engineering Role	
S18	Assemble and test a range of electrical components for example component panels, isolator switches, fuses, circuit breakers, contactors, relays, rail mounted terminal blocks, etc
S19	Assemble and test a range of electronic components for example resistors, capacitors, diodes, transistors, etc
Specialist Job Role Option 4 – Fabrication Role	
S22	Join the materials using the appropriate methods and techniques
S23	Produce components which meet the specification requirements
Specialist Job Role Option 5 – Materials, Processing, Finishing Role	
S26	Prepare equipment, tooling, materials, etc. and complete set up activities before carrying out the materials, processing, finishing operation
S27	Carryout the material, processing, finishing operation in line with specific safe working practices and specification requirements
Specialist Job Role Option 6 – Technical Support Role	
S30	Prepare equipment, tooling, materials, etc. and complete set up activities before carrying out the technical support activity
S31	Carry out the technical support operation in line with specific safe working practices and specification requirements
Behaviours	
B1	Personal responsibility and resilience – Comply with the health and safety guidance and procedures, be disciplined and have a responsible approach to risk, work diligently regardless of how much they are being supervised, accept responsibility for managing time and workload and stay motivated and committed when facing challenges

Assessment Method 1: Professional Discussion

The purpose of the professional discussion is to enable the apprentice to showcase to the end-point assessor how they have carried out the role of an Engineering Operative, integrating the knowledge, skills and behaviours expected and for the end-point assessor to be assured the apprentice has achieved the requirements of the Standard. To help ensure that the professional discussion is practicable and cost effective, it can be carried out at the employer's site, an assessment centre approved by SIAS or via video link appropriate. If a video link is used then appropriate measures must be in place to ensure SIAS is satisfied that the responses given are those of the candidate for example use of a 360 degree camera to allow the end-point assessor to look around the room during the interview.

The end-point assessor will ask the apprentice 5-7 open questions developed by SIAS; follow up questions are allowed to seek clarification. The professional discussion must be completed during a 40-minute period + or - 2 minutes. Questions must seek to assess KSBs and can be informed by information within the reflective portfolio, assessing performance against the pass and distinction criteria and enable the end-point assessor to explore areas they consider warrants further investigation in order to assure themselves that the apprentice has the competence to work as an Engineering Operative. The apprentice may refer to their reflective portfolio during the professional discussion if required. SIAS will produce sample questions or a question template as a guide for end-point assessors.

The purpose of the professional discussion is to:

- demonstrate the apprentice can apply the broad range of KSBs in the standard
- clarify any questions the end-point assessor has from their review of the reflective portfolio submitted
- explore aspects of the apprentice's work, including how it was carried out, in more detail
- enable the end-point assessor to draw a conclusion on the holistic EPA and the final grade to be awarded on the aggregated achievement of the individual assessments using the grading criteria from the assessment plan

The professional discussion will be carried out by an end-point assessor (an employer representative may attend if requested to do so by SIAS) appointed by SIAS. The employer representative must be occupationally competent. The employer representative will be sourced by the apprentice's own employer and will provide technical support, advice and guidance such as confirming company policies, procedures, processes, providing context on technical information or on emerging technologies. Any information provided by the employer technical expert must only be at the request of the end-point assessor who has the final say over the assessment and grade awarded. The employer technical expert must not provide evidence on behalf of the apprentice.

The end-point assessor will be qualified to a minimum of level 3 within the engineering discipline being assessed and have up to date knowledge and understanding of the engineering sector and be qualified in assessment practice. During the allocation of end-point assessors SIAS will decide if the end-point assessor has the relevant skill set within the engineering discipline being assessed.

The end-point assessor will review the reflective portfolio and decide how the professional discussion will be conducted and relevant key questions to ask the apprentice to confirm the broad range of knowledge, skills and behaviours have been achieved. At the end of the professional discussion, the end-point assessor will make the final judgement on distinction, pass, or fail for this assessment method.

The professional discussion will be graded either fail, pass or distinction, to achieve a pass for the professional discussion the apprentice must achieve all of the pass criteria that is laid out in the grading matrix, to achieve a distinction the apprentices must achieve all of the pass criteria and the distinction criteria that is laid out in the grading matrix.

Reflective Portfolio

Portfolio of evidence requirements:

At least 2 weeks prior to professional discussion, the apprentice will submit a Reflective Portfolio setting out examples of work they have undertaken. The reflective portfolio will be used to inform the professional discussion through which the apprentice will demonstrate competence of the broad range of knowledge, skills and behaviours set out in the standard. The employer will be required to confirm that the reflective portfolio provides an accurate representation of work carried out by the apprentice and is not embellished. The portfolio will not be graded as part of the EPA but will be used to ascertain the level of explanation given during the graded professional discussion. The reflective portfolio will be reviewed by an end-point assessor, approved by SIAS.

The reflective portfolio should include samples of work carried out by the apprentice and demonstrate work carried out over a period of time.

It must include evidence of work carried out within the last three months of the on-programme period, and will include a minimum of 2 and no more than 3 activities carried out by the apprentice that demonstrates the higher order knowledge, skills and behaviours of the standard.

Where practicable this should include:

- Photographs
- Images
- Diagrams
- On the job observations
- Witness evidence or testimony

This should also include situations that have been difficult or challenging, and how these have been overcome for example, equipment breakdown which has resulted in a change in working practice while still adhering to company procedures.

Any employer contributions must focus on direct observation of evidence (for example, reviews/witness statements) of competence rather than opinions. The portfolio cannot include any methods of self-assessment or self-appraisal.

Professional Discussion Grading Descriptors

Higher Order Skills to be Assessed	Lower Order Skills	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core skills pass criteria and all of the pass criteria for one of the specialist job role options as laid out below	Distinction Criteria To achieve a distinction the apprentices must be able to achieve all of the pass criteria and at least 2 of the 3 core skills distinction criteria as laid out below and the distinction criteria for the specialist job role they are working towards
Core Skills to be Assessed				
Works safely at all times ensuring that all appropriate legislation, regulation and environmental compliance requirements have been adhered to in-line with company policies, procedures and practice.	<p>S1 Work safely at all times, complying with health and safety legislation, regulations, environmental compliance procedures and systems and other relevant guidelines</p> <p>S2 Identify and deal appropriately with any risks, hazards, hazardous situations and problems that may occur within the engineering environment within the limits of their responsibility</p> <p>S6 Select and use appropriate tools, equipment and materials to carry out the engineering operation</p> <p>S7 Deal appropriately with any problems that may</p>	<p>Insufficient evidence of demonstrating they have the ability to work safely in an engineering environment and could potentially put self, colleagues, the environment or public at risk by their actions.</p> <p>Evidence including:</p> <ul style="list-style-type: none"> • Failure to identify and deal appropriately with any risks, hazards, hazardous situations and problems. • Failure to use relevant PPE. • Failure to identify and select the appropriate tools, equipment and materials. 	<p>Demonstrates their ability to work safely in an engineering environment to approved procedures.</p> <p>Evidence including:</p> <p>P1 Can identify, assess and control risk within work environment.</p> <p>P2 Can use effective communication using a range of techniques.</p> <p>P3 Can complete documentation accurately, efficiently and legibly using the correct terminology.</p> <p>P4 Can select and use appropriate tools, equipment and materials to carry out the engineering operations.</p>	<p>Demonstrates they have the ability to take on additional safety responsibilities, over and above the expectation of an engineering environment.</p> <p>Evidence including:</p> <p>D1 Challenges other people on H&S compliance, where appropriate.</p> <p>D2 Can dynamically assess and control risk at all times regardless of environment.</p> <p>D3 Can suggest ideas for improvement along with possible solutions</p>

Higher Order Skills to be Assessed	Lower Order Skills	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core skills pass criteria and all of the pass criteria for one of the specialist job role options as laid out below	Distinction Criteria To achieve a distinction the apprentices must be able to achieve all of the pass criteria and at least 2 of the 3 core skills distinction criteria as laid out below and the distinction criteria for the specialist job role they are working towards
	occur within the manufacturing environment within the limits of their responsibility	<ul style="list-style-type: none"> • Fails to identify problems within the engineering environment. 	<p>P5 Can deal with problems that occur within the engineering environment.</p> <p>P6 Can plan and prepare prior to starting engineering activity.</p> <p>P7 Can work efficiently and effectively while adhering to appropriate job instructions.</p>	
Communicates effectively using a wide range of methods.	<p>S3 Demonstrate effective communication skills which include oral, written, electronic</p> <p>S4 Complete appropriate documentation accurately, efficiently and legibly using the correct terminology where required</p>	<p>Insufficient evidence of demonstrating they have the ability to work safely in an engineering environment and could potentially put self, colleagues, the environment or public at risk by their actions.</p> <p>Evidence including:</p> <ul style="list-style-type: none"> • Does not use effective communication using a range of techniques. 	<p>Demonstrates their ability to work safely in an engineering environment to approved procedures.</p> <p>Evidence including:</p> <p>P8 Can use effective communication using a range of techniques.</p> <p>P9 Can complete documentation accurately, efficiently and legibly using the correct terminology.</p>	N/A

Higher Order Skills to be Assessed	Lower Order Skills	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core skills pass criteria and all of the pass criteria for one of the specialist job role options as laid out below	Distinction Criteria To achieve a distinction the apprentices must be able to achieve all of the pass criteria and at least 2 of the 3 core skills distinction criteria as laid out below and the distinction criteria for the specialist job role they are working towards
		<ul style="list-style-type: none"> Does not complete documentation accurately, efficiently and legibly using the correct terminology. 		
Specialist Job Role Option 1 – Maintenance Role: Additional Skills to be Assessed				
Carries out fault-finding and maintenance activities including corrective action in-line with company processes, procedures and practice.	<p>S9 Carry out fault location on appropriate equipment using suitable maintenance diagnostic techniques</p> <p>S10 Carry out maintenance activities in line with work instructions</p> <p>S11 Carry out tests on the maintained equipment in accordance with test schedule or defined test procedures</p> <p>S12 Follow appropriate completion activities and restore equipment to service by replacing or repairing components</p>	<p>Insufficient evidence of demonstrating they can follow relevant work instructions and applying correct procedures.</p> <p>Evidence including:</p> <ul style="list-style-type: none"> Failure to carry out fault location and does not use suitable diagnostic techniques. Failure to carry out sufficient tests on the maintained equipment. Failure to follow completion activities and fails to restore 	<p>Demonstrates their ability carry out maintenance activities in line with work instructions.</p> <p>Evidence including:</p> <p>P10 Provides evidence of having followed the correct work instructions as part of their work commitments and shows an understanding of any operating rules in place within the instruction.</p> <p>P11 Carries out fault location using suitable diagnostic techniques.</p> <p>P12 Carries out sufficient tests on the maintained equipment.</p>	<p>D4 Demonstrates that they can consistently carry out fault finding and maintenance efficiently and can overcome problems.</p>

Higher Order Skills to be Assessed	Lower Order Skills	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core skills pass criteria and all of the pass criteria for one of the specialist job role options as laid out below	Distinction Criteria To achieve a distinction the apprentices must be able to achieve all of the pass criteria and at least 2 of the 3 core skills distinction criteria as laid out below and the distinction criteria for the specialist job role they are working towards
		equipment to a serviceable condition.	P13 Carries out correct completion activities and restores equipment to a serviceable condition.	
Specialist Job Role Option 2 – Mechanical Manufacturing Role: Additional Skills to be Assessed				
Produces parts to the required specification.	<p>S13 Plan the mechanical manufacturing operation before they start</p> <p>S14 Mount and set the required work holding devices</p> <p>S15 Produce individual components, sub-assemblies or completed assemblies using mechanical manufacturing techniques</p> <p>S16 Carry out quality checks during and after mechanical manufacturing operations</p>	<p>Insufficient evidence of demonstrating they can produce components sub-assemblies or completed assemblies to the required specification.</p> <p>Evidence including:</p> <ul style="list-style-type: none"> • Failure to plan mechanical manufacturing operation before they start. • Failure to mount and set the required work holding devices. • Failure to carry out quality checks during and after mechanical 	<p>Demonstrates their ability to produce components subassemblies or completed assemblies to the required specification.</p> <p>Evidence including:</p> <p>P14 Provides evidence of having used appropriate mechanical manufacturing techniques to produce individual components, sub-assemblies or completed assemblies, showing an understanding of the techniques used.</p> <p>P15 Mounts and sets the required work holding devices.</p>	D5 Demonstrates that they can consistently produce high quality parts efficiently and can overcome problems.

Higher Order Skills to be Assessed	Lower Order Skills	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core skills pass criteria and all of the pass criteria for one of the specialist job role options as laid out below	Distinction Criteria To achieve a distinction the apprentices must be able to achieve all of the pass criteria and at least 2 of the 3 core skills distinction criteria as laid out below and the distinction criteria for the specialist job role they are working towards
		manufacturing operation.	<p>P16 Can plan mechanical manufacturing operation before they start.</p> <p>P17 Carries out appropriate quality checks during and after mechanical manufacturing operation to confirm components sub-assemblies or completed assemblies meet the required specification.</p>	
Specialist Job Role Option 3 – Electrical and Electronic Engineering Role: Additional Skills to be Assessed				
Assemble and test a range of electrical and electronic equipment.	<p>S17 Wire and terminate different types of cabling for example single core, multi core, screened, fire resistant, armoured, etc.</p> <p>S18 Assemble and test a range of electrical components for example component panels, isolator switches, fuses, circuit breakers, contactors, relays,</p>	<p>Insufficient evidence of demonstrating they can assemble and test a range of electrical and electronic components.</p> <p>Evidence including:</p> <ul style="list-style-type: none"> • Failure to wire and terminate cables in line with work instructions. • Failure to follow completion activities 	<p>Demonstrates their ability to assemble and test a range of electrical and electronic components.</p> <p>Evidence including:</p> <p>P18 Provides evidence of having used appropriate assembly and testing, showing an understanding of the techniques used.</p> <p>P19 Can wire and terminate different types of cabling.</p>	<p>D6 Demonstrates that they can consistently assemble and test electrical and electronic equipment efficiently and can overcome problems.</p>

Higher Order Skills to be Assessed	Lower Order Skills	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core skills pass criteria and all of the pass criteria for one of the specialist job role options as laid out below	Distinction Criteria To achieve a distinction the apprentices must be able to achieve all of the pass criteria and at least 2 of the 3 core skills distinction criteria as laid out below and the distinction criteria for the specialist job role they are working towards
	rail mounted terminal blocks, etc. S19 Assemble and test a range of electronic components for example resistors, capacitors, diodes, transistors, etc. S20 Follow appropriate completion activities and restore equipment or system to service after the assembly and testing has been completed	and fails to restore equipment to a serviceable condition. <ul style="list-style-type: none"> • Failure to carry out quality checks during and after the assembly of components. 	P20 Can follow completion activities and restores equipment to a serviceable condition. P21 Carries out appropriate quality checks during and after the assembly and testing operation to confirm required specification requirements are met.	
Specialist Job Role Option 4 – Fabrication Role: Additional Skills to be Assessed				
Produces parts to the required specification.	S21 Shape the materials using the appropriate methods and techniques S22 Join the materials using the appropriate methods and techniques S23 Produce components which meet the specification requirements	Insufficient evidence of demonstrating they can produce components which meet the specification requirements. Evidence including: <ul style="list-style-type: none"> • Failure to shape the materials in line with work instructions and 	Demonstrates their ability to produce components which meet the specification requirements. Evidence including: P22 Provides evidence of having used appropriate work instructions to produce components as part of their work commitments and	D7 Demonstrates that they can consistently produce high quality parts efficiently and can overcome problems.

Higher Order Skills to be Assessed	Lower Order Skills	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core skills pass criteria and all of the pass criteria for one of the specialist job role options as laid out below	Distinction Criteria To achieve a distinction the apprentices must be able to achieve all of the pass criteria and at least 2 of the 3 core skills distinction criteria as laid out below and the distinction criteria for the specialist job role they are working towards
	S24 Carry out quality checks during and after the fabrication activities	required specification. <ul style="list-style-type: none"> • Failure to join the materials in line with work instructions and required specification. • Failure to carry out quality checks during and after the fabrication activity. 	shows an understanding of any operating rules in place within the instruction. P23 Can shape the materials using the appropriate methods and techniques. P24 Can join the materials using the appropriate methods and techniques. P25 Carries out appropriate quality checks during and after the fabrication operation to confirm required specification requirements are met.	
Specialist Job Role Option 5 – Materials, Processing, Finishing Role: Additional Skills to be Assessed				
Prepare for and carryout material processing finishing operations to the required	S25 Plan the materials, processing, finishing operation before they start S26 Prepare equipment, tooling, materials, etc. and complete set up activities before carrying out the	Insufficient evidence of demonstrating they can carry out material, processing, finishing operations in line with specification requirements. Evidence including:	Demonstrates their ability to carry out material, processing, finishing operations which meet the specification requirements. Evidence including: P26 Provides evidence of having used appropriate	D8 Demonstrates that they can consistently carryout material processing finishing operations efficiently and can overcome problems.

Higher Order Skills to be Assessed	Lower Order Skills	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core skills pass criteria and all of the pass criteria for one of the specialist job role options as laid out below	Distinction Criteria To achieve a distinction the apprentices must be able to achieve all of the pass criteria and at least 2 of the 3 core skills distinction criteria as laid out below and the distinction criteria for the specialist job role they are working towards
specification efficiently.	materials, processing, finishing operation S27 Carry out the material, processing, finishing operation in line with specific safe working practices and specification requirements S28 Carry out quality checks during and after the materials, processing, finishing operation	<ul style="list-style-type: none"> • Failure to plan materials, processing, finishing operation before they start. • Failure to prepare equipment, tooling, materials and complete appropriate set up activities. • Failure to carry out quality checks during and after materials, processing, finishing operation. 	work instructions to carry out material, processing, finishing operation as part of their work commitments and shows an understanding of any operating rules in place within the instruction. P27 Can plan material, processing, finishing operation before they start. P28 Can prepare equipment, tooling, materials and complete appropriate set up activities. P29 Carries out appropriate quality checks during and after the material, processing, finishing operation to confirm required specification requirements are met.	
Specialist Job Role Option 6 – Technical Support Role: Additional Skills to be Assessed				

Higher Order Skills to be Assessed	Lower Order Skills	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core skills pass criteria and all of the pass criteria for one of the specialist job role options as laid out below	Distinction Criteria To achieve a distinction the apprentices must be able to achieve all of the pass criteria and at least 2 of the 3 core skills distinction criteria as laid out below and the distinction criteria for the specialist job role they are working towards
<p>Prepare and carryout the technical support activities in line with company procedures, processes and practices.</p>	<p>S29 Plan the technical support operation before they start S30 Prepare equipment, tooling, materials, etc. and complete set up activities before carrying out the technical support activity S31 Carry out the technical support operation in line with specific safe working practices and specification requirements S32 Carry out quality checks during and after the technical support operation</p>	<p>Insufficient evidence of demonstrating they can carry out technical support operations in line with specification requirements. Evidence including:</p> <ul style="list-style-type: none"> • Failure to plan technical support operation before they start. • Failure to prepare equipment, tooling, materials and complete appropriate set up activities. • Failure to carry out quality checks during and after technical support operation. 	<p>Demonstrates their ability to carry out material, processing, finishing operations which meet the specification requirements. Evidence including: P30 Provides evidence of having used appropriate work instructions to carry out technical support operation as part of their work commitments and shows an understanding of any operating rules in place within the instruction. P31 Can plan technical support operation before they start. P32 Can prepare equipment, tooling, materials and complete appropriate set up activities. P33 Carries out appropriate quality checks during and</p>	<p>D9 Demonstrates that they can consistently carryout technical support activities efficiently and can overcome problems.</p>

Higher Order Skills to be Assessed	Lower Order Skills	Fail Criteria	Pass Criteria	Distinction Criteria
			<p>To achieve a pass the apprentice must achieve all of the core skills pass criteria and all of the pass criteria for one of the specialist job role options as laid out below</p> <p>after the technical support operation to confirm required specification requirements are met.</p>	<p>To achieve a distinction the apprentices must be able to achieve all of the pass criteria and at least 2 of the 3 core skills distinction criteria as laid out below and the distinction criteria for the specialist job role they are working towards</p>

Higher Order Knowledge to be Assessed	Lower Order Knowledge	Fail Criteria	Pass Criteria	Distinction Criteria
Core Knowledge to be Assessed				
<p>Knows how to complete tasks, solve problems and implement preventive measures in-line with appropriate legislation, regulation and environmental</p>	<p>K2 Relevant statutory, quality, environmental compliance procedures/systems, organisational and health and safety regulations relating to engineering operations</p>	<p>Insufficient knowledge of the statutory, quality, environmental compliance procedures, systems, organisational and health and safety regulations</p> <p>Evidence including:</p> <ul style="list-style-type: none"> Cannot outline the specific statutory, quality, environmental compliance 	<p>Demonstrates their understanding of statutory, quality, environmental compliance procedures, systems, organisational and health and safety regulations.</p> <p>Evidence including:</p> <p>P34 Able to outline the specific statutory, quality, environmental compliance procedures and systems,</p>	<p>N/A</p>

Higher Order Knowledge to be Assessed	Lower Order Knowledge	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core knowledge pass criteria and all of the pass criteria for one of the specialist job role options as laid out below	Distinction Criteria To achieve a distinction the apprentices must be able to achieve all of the pass criteria and the distinction criteria for the specialist job role they are working towards
compliance and company policies, procedures and practices.		procedures and systems, organisational and health and safety regulations.	organisational and health and safety regulations relevant to their work activities.	
	K4 Engineering operational practices, processes and procedures	Insufficient knowledge of improvement techniques Evidence including: <ul style="list-style-type: none"> Cannot outline the operational practices, processes and procedures. 	Demonstrates their understanding of improvement techniques. Evidence including: P35 Able to outline the specific operational practices, processes and procedures relevant to their work activities.	N/A
Specialist Job Role Option 1 – Maintenance Role: Additional Knowledge to be Assessed				
Knows how to carry out maintenance activities and a range of fault-finding techniques.	K6 Maintenance planning K7 Diagnostic and fault-finding techniques	Insufficient knowledge of maintenance operations Evidence including: <ul style="list-style-type: none"> Cannot describe the maintenance planning operation in sufficient detail. Cannot describe the diagnostic and fault 	Demonstrates their understanding of a maintenance operations. Evidence including: P36 Use of technical language and detail covering the key elements of the knowledge relating to the maintenance activities they have been involved in.	D10 Use of technical language and detail to give an in-depth* explanation the key elements of the knowledge relating to the to the maintenance activities they have been involved in. In-depth* = explanation includes detail of key aspects of the work

Higher Order Knowledge to be Assessed	Lower Order Knowledge	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core knowledge pass criteria and all of the pass criteria for one of the specialist job role options as laid out below	Distinction Criteria To achieve a distinction the apprentices must be able to achieve all of the pass criteria and the distinction criteria for the specialist job role they are working towards
		finding techniques they have used.	<p>P37 Can describe the planning carried out prior to the start of the maintenance operation.</p> <p>P38 Can describe the diagnostic and fault-finding techniques they used and the reason for using them.</p>	they have carried out and can answer questions using relevant detail e.g. processes, equipment, materials used and the reason behind their use.
Specialist Job Role Option 2 – Mechanical Manufacturing Role: Additional Knowledge to be Assessed				
Knows how to carry out manufacturing activities using a range of techniques and equipment	<p>K9 Specific equipment operating parameters</p> <p>K10 Mechanical manufacturing techniques</p>	<p>Insufficient knowledge of mechanical manufacturing operations.</p> <p>Evidence including:</p> <ul style="list-style-type: none"> • Cannot describe the equipment operating parameters. • Cannot describe the mechanical manufacturing techniques they have used. 	<p>Demonstrates their understanding of a mechanical manufacturing operations.</p> <p>Evidence including:</p> <p>P39 Use of technical language and detail covering the key elements of the knowledge relating to the mechanical manufacturing activities they have been involved in.</p> <p>P40 Can describe the specific equipment operating parameters.</p>	<p>D11 Use of technical language and detail to give an in-depth* explanation the key elements of the knowledge relating to the to the mechanical manufacturing activities they have been involved in.</p> <p>In-depth* = explanation includes detail of key aspects of the work they have carried out and can answer questions using relevant detail e.g. processes, equipment, materials used and the reason behind their use.</p>

Higher Order Knowledge to be Assessed	Lower Order Knowledge	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core knowledge pass criteria and all of the pass criteria for one of the specialist job role options as laid out below	Distinction Criteria To achieve a distinction the apprentices must be able to achieve all of the pass criteria and the distinction criteria for the specialist job role they are working towards
			P41 Can describe the mechanical manufacturing techniques they have used.	
Specialist Job Role Option 3 – Electrical and Electronic Engineering Role: Additional Knowledge to be Assessed				
Knows the uses for different cable types for a range of tasks and the techniques used.	K12 Cable types and where they should be used K13 Electrical and electronic assembly and testing techniques	Insufficient knowledge of electrical and electronic engineering operations. Evidence including: <ul style="list-style-type: none"> • Cannot describe the different cable types and where they have used them. • Cannot describe the electrical and electronic assembly and testing techniques they have used. 	Demonstrates their understanding of electrical and electronic engineering operations. Evidence including: P42 Use of technical language and detail covering the key elements of the knowledge relating to the electrical and electronic engineering activities they have been involved in. P43 Can describe the different cable types and where they have used them. P44 Can describe the electrical and electronic assembly and testing techniques they have used.	D12 Use of technical language and detail to give an in-depth* explanation the key elements of the knowledge relating to the to the electrical and electronic engineering activities they have been involved in. In-depth* = explanation includes detail of key aspects of the work they have carried out and can answer questions using relevant detail for example processes, equipment, materials used and the reason behind their use.
Specialist Job Role Option 4 – Fabrication Role: Additional Knowledge to be Assessed				

Higher Order Knowledge to be Assessed	Lower Order Knowledge	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core knowledge pass criteria and all of the pass criteria for one of the specialist job role options as laid out below	Distinction Criteria To achieve a distinction the apprentices must be able to achieve all of the pass criteria and the distinction criteria for the specialist job role they are working towards
Knows how to prepare appropriately for tasks in-line with safe working practices and procedures.	K15 Specific marking out and preparation techniques K16 Different fabrication and joining techniques	Insufficient knowledge of fabrication operations. Evidence including: <ul style="list-style-type: none"> • Cannot describe the marking out and preparation techniques. • Cannot describe the different fabrication and joining techniques they have used. 	Demonstrates their understanding of fabrication operations. Evidence including: P45 Use of technical language and detail covering the key elements of the knowledge relating to the fabrication activities they have been involved in. P46 Can describe the marking out and preparation techniques and where they have used them. P47 Can describe the different fabrication and joining techniques they have used.	D13 Use of technical language and detail to give an in-depth* explanation the key elements of the knowledge relating to the to the fabrication activities they have been involved in. In-depth* = explanation includes detail of key aspects of the work they have carried out and can answer questions using relevant detail for example processes, equipment, materials used and the reason behind their use.
Specialist Job Role Option 5 – Materials, Processing, Finishing Role				
Knows the uses of a range of equipment and the associated	K18 Specific machinery, equipment and tooling required for the materials, processing, finishing operation	Insufficient knowledge of materials, processing, finishing operations. Evidence including: <ul style="list-style-type: none"> • Cannot describe the machinery, 	Demonstrates their understanding of materials, processing, finishing operations. Evidence including:	D14 Use of technical language and detail to give an in-depth* explanation the key elements of the knowledge relating to the to the materials, processing,

Higher Order Knowledge to be Assessed	Lower Order Knowledge	Fail Criteria	Pass Criteria To achieve a pass the apprentice must achieve all of the core knowledge pass criteria and all of the pass criteria for one of the specialist job role options as laid out below	Distinction Criteria To achieve a distinction the apprentices must be able to achieve all of the pass criteria and the distinction criteria for the specialist job role they are working towards
quality outputs of that equipment.	K19 Different materials, processing, finishing techniques	equipment and tooling required for the materials, processing, finishing operation. <ul style="list-style-type: none"> Cannot describe the different materials, processing, finishing techniques. 	P48 Use of technical language and detail covering the key elements of the knowledge relating to the materials, processing, finishing activities they have been involved in. P49 Can describe the machinery, equipment and tooling required for the materials, processing, finishing operation and where they have used them. P50 Can describe the different materials, processing, finishing techniques.	finishing activities they have been involved in. In-depth* = explanation includes detail of key aspects of the work they have carried out and can answer questions using relevant detail for example processes, equipment, materials used and the reason behind their use.
Specialist Job Role Option 6 – Technical Support Role: Additional Knowledge to be Assessed				
Knows the uses of a range of equipment, the quality requirements of their tasks	K21 Specific machinery, equipment and tooling required for the technical support operation K22 Different technical support techniques	Insufficient knowledge technical support operations Evidence including: <ul style="list-style-type: none"> Cannot describe the machinery, equipment and tooling required for 	Demonstrates their understanding of technical support operations. Evidence including: P51 Use of technical language and detail covering the key elements of the	D15 Use of technical language and detail to give an in-depth* explanation the key elements of the knowledge relating to the to the technical support

Higher Order Knowledge to be Assessed	Lower Order Knowledge	Fail Criteria	Pass Criteria	Distinction Criteria
and the safe working practices.		<p>the technical support operation.</p> <ul style="list-style-type: none"> Cannot describe the different technical support techniques. 	<p>To achieve a pass the apprentice must achieve all of the core knowledge pass criteria and all of the pass criteria for one of the specialist job role options as laid out below</p> <p>knowledge relating to the technical support activities they have been involved in. P52 Can describe the machinery, equipment and tooling required for the technical support operation and where they have used them. P53 Can describe the different technical support techniques.</p>	<p>To achieve a distinction the apprentices must be able to achieve all of the pass criteria and the distinction criteria for the specialist job role they are working towards</p> <p>activities they have been involved in.</p> <p>In-depth* = explanation includes detail of key aspects of the work they have carried out and can answer questions using relevant detail for example processes, equipment, materials used and the reason behind their use.</p>

Core Behaviours to be assessed	Fail Criteria	Pass Criteria	Distinction Criteria
<p>B1 Personal responsibility and resilience Comply with the health and safety guidance and procedures, be disciplined and have a</p>	<p>Apprentice fails to demonstrate an acceptable level of behaviour</p> <p>Does not comply with health and safety guidance and procedures.</p>	<p>Apprentice demonstrated an acceptable level of behaviour and meets the minimum level of behaviour expected</p> <p>To achieve a pass the apprentice must achieve all of the behaviours pass criteria as laid out below</p> <p>Demonstrate they comply with H&S guidance and procedures.</p>	<p>Apprentice demonstrated consistent and positive behaviours</p> <p>To achieve a distinction the apprentices must be able to achieve all of the pass criteria and all of the distinction as laid out below</p> <p>D16 Can challenge others on H&S compliance.</p>

Core Behaviours to be assessed	Fail Criteria Apprentice fails to demonstrate an acceptable level of behaviour	Pass Criteria Apprentice demonstrated an acceptable level of behaviour and meets the minimum level of behaviour expected To achieve a pass the apprentice must achieve all of the behaviours pass criteria as laid out below	Distinction Criteria Apprentice demonstrated consistent and positive behaviours To achieve a distinction the apprentices must be able to achieve all of the pass criteria and all of the distinction as laid out below
responsible approach to risk, work diligently regardless of how much they are being supervised, accept responsibility for managing time and workload and stay motivated and committed when facing challenges.		Evidence including: P54 Always demonstrates understanding and importance of H&S requirements. P55 Assesses and controls risk in current environment. P56 Can be trusted to work on own when appropriate, knowing who and where to seek help from if needed. P57 Can manage own time and workload. P58 Stays motivated and committed, when facing small challenges.	D17 Can proactively assess and control risk without the need to be prompted. D18 Sets an example to others by always working hard even when on own. D19 Can reflect on how to do things more effectively.
B2 Work effectively in teams Integrate with the team, support other people, consider implications of their own actions on other people and the business whilst working effectively to get the task completed.	Does not work well within a team.	Demonstrate they can work well within a team. Evidence including: P59 Makes effort to integrate within a team.	D20 Proactively and regularly supports others. D21 Seeks support and advice and will share learning.

Core Behaviours to be assessed	Fail Criteria Apprentice fails to demonstrate an acceptable level of behaviour	Pass Criteria Apprentice demonstrated an acceptable level of behaviour and meets the minimum level of behaviour expected To achieve a pass the apprentice must achieve all of the behaviours pass criteria as laid out below	Distinction Criteria Apprentice demonstrated consistent and positive behaviours To achieve a distinction the apprentices must be able to achieve all of the pass criteria and all of the distinction as laid out below
		P60 Will help and support when asked. P61 Considers impact of own actions on other people or activities. P62 Contributes positively to team deliverables.	D22 Provides encouragement as appropriate to keep the team on track.
B3 Effective communication and interpersonal skills An open and honest communicator; communicates clearly using appropriate methods, listen well to others and have a positive and respectful attitude.	Does not communicate in an efficient and effective way.	Demonstrate they can communicate in an efficient and effective way. Evidence including: P63 Can communicate open and honestly. P64 Communicates clearly using appropriate methods. P65 Pays attention and asks relevant questions to clarify understanding. P66 Has a positive and respectful attitude.	D23 Proactively shares information, openly and honestly. D24 Checks understanding of others by asking open questions.
B4 Focus on quality and problem-solving Follow instructions and guidance,	Does not follow instructions and guidance.	Demonstrate they can follow instructions and guidance	D25 Can make suggestions to improve instructions.

Core Behaviours to be assessed	Fail Criteria Apprentice fails to demonstrate an acceptable level of behaviour	Pass Criteria Apprentice demonstrated an acceptable level of behaviour and meets the minimum level of behaviour expected To achieve a pass the apprentice must achieve all of the behaviours pass criteria as laid out below	Distinction Criteria Apprentice demonstrated consistent and positive behaviours To achieve a distinction the apprentices must be able to achieve all of the pass criteria and all of the distinction as laid out below
demonstrate attention to detail, follow a logical approach to problem solving and seek opportunities to improve quality, speed and efficiency.	Does not follow a logical approach to problem solving	and can follow a logical approach to problem solving. Evidence including: P67 Understands and can follow instructions and processes. P68 Demonstrates attention to detail. P69 Follows a logical and right approach to problem solving. P70 Identifies opportunities to improve, but may need prompting for ideas.	D26 Can escalate issues as appropriate. D27 Applies the most appropriate technique for problem solving. D28 Can reflect upon lessons learnt after problem solving activity.
B5 Continuous personal development Reflect on skills, knowledge and behaviours and seek opportunities to develop, adapt to different situations, environments or technologies and have a positive attitude to feedback and advice.	Does not take ownership of their personal development. Does not seek opportunities to develop.	Demonstrate they can take ownership of their personal development and will seek opportunities to develop. Evidence including: P71 Can reflect on knowledge and seeks opportunities to develop.	D29 Recognises needs and continually seeks learning opportunities. D30 Can transfer learning, applying it to different situations. D31 Can adapt quickly and effectively to new situations,

Core Behaviours to be assessed	Fail Criteria Apprentice fails to demonstrate an acceptable level of behaviour	Pass Criteria Apprentice demonstrated an acceptable level of behaviour and meets the minimum level of behaviour expected To achieve a pass the apprentice must achieve all of the behaviours pass criteria as laid out below	Distinction Criteria Apprentice demonstrated consistent and positive behaviours To achieve a distinction the apprentices must be able to achieve all of the pass criteria and all of the distinction as laid out below
		<p>P72 Can reflect on skills and seeks opportunities to develop</p> <p>P73 Can reflect on behaviours and seeks opportunities to develop.</p> <p>P74 Can adapt to different situations, environments or technologies.</p> <p>P75 Has a positive attitude to feedback and advice.</p>	<p>environments or technologies.</p> <p>D32 Proactively seeks feedback and acts upon it.</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	
K2	Relevant statutory, quality, environmental compliance procedures and systems, organisational and health and safety regulations relating to engineering operations
K4	Engineering operational practices, processes and procedures
Specialist Job Role Option 1 – Maintenance Role	
K6	Maintenance planning
K7	Diagnostic and fault-finding techniques
Specialist Job Role Option 2 – Mechanical Manufacturing Role	
K9	Specific equipment operating parameters
K10	Mechanical manufacturing techniques
Specialist Job Role Option 3 – Electrical and Electronic Engineering Role	
K12	Cable types and where they should be used
K13	Electrical and electronic assembly and testing techniques
Specialist Job Role Option 4 – Fabrication Role	
K15	Specific marking out and preparation techniques
K16	Different fabrication and joining techniques
Specialist Job Role Option 5 – Materials, Processing, Finishing Role	
K18	Specific machinery, equipment and tooling required for the materials, processing, finishing operation
K19	Different materials, processing, finishing techniques
Specialist Job Role Option 6 – Technical Support Role	
K21	Specific machinery, equipment and tooling required for the technical support operation
K22	Different technical support techniques
Skills	
S1	Work safely at all times, complying with health and safety legislation, regulations, environmental compliance procedures and systems and other relevant guidelines
S2	Identify and deal appropriately with any risks, hazards, hazardous situations, and problems that may occur within the engineering environment within the limits of their responsibility
S3	Demonstrate effective communication skills which include oral, written, electronic
S4	Complete appropriate documentation accurately, efficiently, and legibly using the correct terminology where required
S6	Select and use appropriate tools, equipment, and materials to carry out the engineering operation
S7	Deal appropriately with any problems that may occur within the manufacturing environment within the limits of their responsibility
Specialist Job Role Option 1 – Maintenance Role	
S9	Carry out fault location on appropriate equipment using suitable maintenance diagnostic techniques
S10	Carry out maintenance activities in line with work instructions

S11	Carry out tests on the maintained equipment in accordance with test schedule or defined test procedures
S12	Follow appropriate completion activities and restore equipment to service by replacing or repairing components
Specialist Job Role Option 2 – Mechanical Manufacturing Role	
S13	Plan the mechanical manufacturing operation before they start
S14	Mount and set the required work holding devices
S15	Produce individual components, sub-assemblies or completed assemblies using mechanical manufacturing techniques
S16	Carry out quality checks during and after mechanical manufacturing operations
Specialist Job Role Option 3 – Electrical and Electronic Engineering Role	
S17	Wire and terminate different types of cabling for example single core, multi core, screened, fire resistant, armoured, etc.
S18	Assemble and test a range of electrical components for example component panels, isolator switches, fuses, circuit breakers, contactors, relays, rail mounted terminal blocks, etc.
S19	Assemble and test a range of electronic components for example resistors, capacitors, diodes, transistors, etc.
S20	Follow appropriate completion activities and restore equipment or system to service after the assembly and testing has been completed
Specialist Job Role Option 4 – Fabrication role	
S21	Shape the materials using the appropriate methods and techniques
S22	Join the materials using the appropriate methods and techniques
S23	Produce components which meet the specification requirements
S24	Carryout quality checks during and after the fabrication activities
Specialist Job Role Option 5 – Materials, Processing, Finishing Role	
S25	Plan the materials, processing, finishing operation before they start
S26	Prepare equipment, tooling, materials, etc. and complete set up activities before carrying out the materials, processing, finishing operation
S27	Carryout the material, processing, finishing operation in line with specific safe working practices and specification requirements
S28	Carryout quality checks during and after the materials, processing, finishing operation
Specialist Job Role Option 6 – Technical Support Role	
S29	Plan the technical support operation before they start
S30	Prepare equipment, tooling, materials, etc. and complete set up activities before carrying out the technical support activity
S31	Carry out the technical support operation in line with specific safe working practices and specification requirements
S32	Carryout quality checks during and after the technical support operation
Behaviours	
B1	Personal responsibility and resilience – Comply with the health and safety guidance and procedures, be disciplined and have a responsible approach to risk, work diligently regardless of how much they are being supervised, accept responsibility for managing time and workload and stay motivated and committed when facing challenges.

B2	Work effectively in teams – Integrate with the team, support other people, consider implications of their own actions on other people and the business whilst working effectively to get the task completed.
B3	Effective communication and interpersonal skills – An open and honest communicator, communicates clearly using appropriate methods, listen well to others and have a positive and respectful attitude.
B4	Focus on quality and problem solving – Follow instructions and guidance, demonstrate attention to detail, follow a logical approach to problem solving and seek opportunities to improve quality, speed and efficiency.
B5	Continuous personal development – Reflect on skills, knowledge and behaviours and seek opportunities to develop, adapt to different situations, environments or technologies and have a positive attitude to feedback and advice.

Final Grade

To achieve an **overall pass** for the apprenticeship, the apprentice must achieve a **minimum of a pass** in **both** the practical skills observation and the professional discussion in all of:

- the higher order core skills grading descriptors
- the higher order core knowledge grading descriptors
- the core behaviours grading descriptors
- the higher order specialist skills grading descriptors for their job role
- the higher order specialist knowledge grading descriptors for their job role

To achieve an **overall distinction** for the apprenticeship, the apprentice must **meet the criteria for a pass**;

Plus, for the **professional discussion**, the apprentice must achieve a **distinction** grade in:

- the higher order core skills grading descriptor
- the higher order specialist skills grading descriptor for their job role
- the higher order specialist knowledge grading descriptor for their job role
- all of the core behaviours grading descriptors

Practical Skills Observation	Professional Discussion	Overall Grading
Fail	Any grade	Fail
Any Grade	Fail	Fail
Pass	Pass	Pass
Pass	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 EPA method will be offered the opportunity to take a re-sit/retake. Re-sits/re-takes must not be offered to apprentices wishing to move from pass to distinction. A re-sit does not require further learning, whereas a re-take does.

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

Resits/retakes should be taken once the apprentice receives sufficient training to address the shortfall in the KSB’s required for the standard that have been identified within the result of the EPA. The timing of the resit/retake should be agreed with the employer and SIAS and is dependent on the amount of learning required to meet the KSBs.

The maximum grade awarded to a re-sit/re-take for the practical observation will be graded pass or fail and a re-sit/re-take of the professional discussion will be graded pass, fail or distinction and combined to determine the EPA grade.

SIAS must ensure that apprentices are observed doing different activities within the practical skills observation when taking a re-sit/re-take.

If the apprentice is unsuccessful, their employer will decide when the apprentice should re-apply for the EPA once additional training has taken place.

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:	
Practical Skills Observation	O
Professional Discussion	PD

Ref	KSB to be assessed	Assessment Method
Core Knowledge		
K1	How to obtain the necessary job instructions, engineering drawings and specifications and how to interpret them	O

Ref	KSB to be assessed	Assessment Method
K2	Relevant statutory, quality, environmental compliance procedures and systems, organisational and health and safety regulations relating to engineering operations	PD
K3	Their individual roles and responsibilities within the organisation and the flexibility required to support the achievement of company targets	O
K4	Engineering operational practices, processes, and procedures	O/PD
K5	Potential problems that can occur within the engineering operations and how they can be avoided	O
Specialist Job Role Option 1 – Maintenance Role		
K6	Maintenance planning	O/PD
K7	Diagnostic and fault-finding techniques	PD
K8	Specific safe working practices, maintenance procedures and environmental regulations that need to be observed	O
Specialist Job Role Option 2 – Mechanical Manufacturing Role		
K9	Specific equipment operating parameters	O/PD
K10	Mechanical manufacturing techniques	PD
K11	Specific quality specifications for mechanical manufacturing operations	O
Specialist Job Role Option 3 – Electrical and Electronic Engineering Role		
K12	Cable types and where they should be used	O/PD
K13	Electrical and electronic assembly and testing techniques	PD
K14	Specific safe working practices, isolation procedures and safe reinstating of equipment or system that need to be observed	O
Specialist Job Role Option 4 – Fabrication Role		
K15	Specific marking out and preparation techniques	O/PD
K16	Different fabrication and joining techniques	PD
K17	Specific safe working practices, isolation procedures and safe reinstating of equipment or system that need to be observed	O
Specialist Job Role Option 5 – Materials, Processing, Finishing Role		
K18	Specific machinery, equipment and tooling required for the materials, processing, finishing operation	O/PD
K19	Different materials, processing, finishing techniques	PD
K20	Specific quality specifications for materials, processing, finishing operations	O
Specialist Job Role Option 6 – Technical Support Role		
K21	Specific machinery, equipment and tooling required for the technical support operation	O/PD
K22	Different technical support techniques	PD
K23	Specific safe working practices, procedures and quality requirements that need to be observed	O
Core Skills		

Ref	KSB to be assessed	Assessment Method
S1	Work safely at all times, complying with health and safety legislation, regulations, environmental compliance procedures and systems and other relevant guidelines	O/PD
S2	Identify and deal appropriately with any risks, hazards, hazardous situations, and problems that may occur within the engineering environment within the limits of their responsibility	PD
S3	Demonstrate effective communication skills which include oral, written, electronic	PD
S4	Complete appropriate documentation accurately, efficiently, and legibly using the correct terminology where required	PD
S5	Obtain and follow the correct documentation, specifications, and work instructions in accordance with time constraints and the roles and responsibilities identified for the engineering activities, extracting the necessary data and information from specification and related documentation	O
S6	Select and use appropriate tools, equipment, and materials to carry out the engineering operation	O/PD
S7	Deal appropriately with any problems that may occur within the manufacturing environment within the limits of their responsibility	PD
S8	Work efficiently and effectively at all times maintaining workplace organisation and minimising waste	O
Specialist Job Role Option 1 – Manufacturing Role		
S9	Carry out fault location on appropriate equipment using suitable maintenance diagnostic techniques	O/PD
S10	Carry out maintenance activities in line with work instructions	O/PD
S11	Carry out tests on the maintained equipment in accordance with test schedule or defined test procedures	PD
S12	Follow appropriate completion activities and restore equipment to service by replacing or repairing components	PD
Specialist Job Role Option 2 – Mechanical Manufacturing Role		
S13	Plan the mechanical manufacturing operation before they start	PD
S14	Mount and set the required work holding devices	O/PD
S15	Produce individual components, sub-assemblies or completed assemblies using mechanical manufacturing techniques	O/PD
S16	Carry out quality checks during and after mechanical manufacturing operations	PD
Specialist Job Role Option 3 – Electrical and Electronic Engineering Role		
S17	Wire and terminate different types of cabling for example single core, multi core, screened, fire resistant, armoured, etc.	PD
S18	Assemble and test a range of electrical components for example component panels, isolator switches, fuses, circuit breakers, contactors, relays, rail mounted terminal blocks, etc.	O/PD
S19	Assemble and test a range of electronic components for example resistors, capacitors, diodes, transistors, etc.	O/PD

Ref	KSB to be assessed	Assessment Method
S20	Follow appropriate completion activities and restore equipment or system to service after the assembly and testing has been completed	PD
Specialist Job Role Option 4 – Fabrication Role		
S21	Shape the materials using the appropriate methods and techniques	PD
S22	Join the materials using the appropriate methods and techniques	O/PD
S23	Produce components which meet the specification requirements	O/PD
S24	Carryout quality checks during and after the fabrication activities	PD
Specialist Job Role Option 5 – Materials, Processing, Finishing Role		
S25	Plan the materials, processing, finishing operation before they start	PD
S26	Prepare equipment, tooling, materials, etc. and complete set up activities before carrying out the materials, processing, finishing operation	O/PD
S27	Carryout the material, processing, finishing operation in line with specific safe working practices and specification requirements	O/PD
S28	Carryout quality checks during and after the materials, processing, finishing operation	PD
Specialist Job Role Option 6 – Technical Support Role		
S29	Plan the technical support operation before they start	PD
S30	Prepare equipment, tooling, materials, etc. and complete set up activities before carrying out the technical support activity	O/PD
S31	Carry out the technical support operation in line with specific safe working practices and specification requirements	O/PD
S32	Carryout quality checks during and after the technical support operation	PD
Behaviours		
B1	Personal responsibility and resilience – Comply with the health and safety guidance and procedures, be disciplined, and have a responsible approach to risk, work diligently regardless of how much they are being supervised, accept responsibility for managing time and workload and stay motivated and committed when facing challenges	O/PD
B2	Work effectively in teams – Integrate with the team, support other people, consider implications of their own actions on other people and the business whilst working effectively to get the task completed	PD
B3	Effective communication and interpersonal skills – An open and honest communicator, communicates clearly using appropriate methods, listen well to others and have a positive and respectful attitude	PD
B4	Focus on quality and problem solving – Follow instructions and guidance, demonstrate attention to detail, follow a logical approach to problem solving and seek opportunities to improve quality, speed, and efficiency	PD
B5	Continuous personal development – Reflect on skills, knowledge and behaviours and seek opportunities to develop, adapt to different	PD

Ref	KSB to be assessed	Assessment Method
	situations, environments or technologies and have a positive attitude to feedback and advice	

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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