SIAS

Lean Manufacturing Operative (ST0420)

Level 2 Apprenticeship Standard

End-Point Assessment Specification

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

SIAS is the Science Industry Assessment Service. It is part of the Cogent Skills Group. For further information about apprenticeship standards and Trailblazers please contact info@siasuk.com.

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

Qualification Objective

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

A Lean Manufacturing Operative will be expected to carry out their work safely and meet the exacting quality standards demanded in a fast paced and efficient processing environment and develop into a multi-skilled operator through process ownership. A lean manufacturing operative can be required to carry out manufacturing activities on multiple products with different specifications consecutively e.g., automotive manufacturing – Multi models manufacturing results in the manufacturing of different models of vehicle with different specification variants within a high-volume environment.

Prior Learning and Qualifications

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

Structure of the Qualification

The standard consists of specified knowledge, skills, and behaviours (KSBs) set out in the assessment plan. Some of these are core and will be assessed for every apprentice, others are specific to the pathway the apprentice is following and will only be assessed on apprentices registered for that pathway.

The Lean Manufacturing Operative Standard has the following pathways:

- Option 1: Production / Assembly
- Option 2: Inspection / Quality Assurance
- Option 3: Logistics / Material Handling
- Option 4: Production Processing / Finishing

About Competence Evaluation

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

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

Competence Evaluation Log (CEL)

The evidence that the apprentice is ready for End-Point Assessment is the signed SIAS Competence Evaluation Log (CEL). The CEL covers the knowledge, skills and behaviours specified in the apprenticeship standard. The signed log shows that the apprentice has demonstrated to the employer they are fully competent at the end of their training.

Readiness for End-Point Assessment (EPA) - Gateway?

The LMO Gateway requirements state that apprentices must demonstrate that they meet the following criteria:

- Employer is satisfied the apprentice is consistently working at, or above, the level of the occupational standard.

- Achieved English and maths at Level 1 and taken the tests for Level 2.
- Achieved Level 2 Diploma in Manufacturing (Knowledge and Skills).
- Apprentices must submit a portfolio of evidence.

This is further confirmed by the employer and apprentice completing, signing, and dating the SIAS Competence Evaluation Log (CEL) prior to EPA.

Portfolio of evidence requirements:

- Apprentices must compile a portfolio of evidence during the on-programme period of the apprenticeship
- The portfolio will typically include 5 pieces of evidence - it must contain sufficient evidence to demonstrate the KSBs that are mapped to the professional discussion. Evidence must be mapped against the KSBs
- Evidence may be used to demonstrate more than one KSB; a qualitative as opposed to quantitative approach is required
- Evidence sources may include:
    - workplace documentation / records, for example job cards / job sheets, equipment check / maintenance / service records, parts order records,
    - annotated photographs
    - video clips (maximum duration in total 10-minutes)
    - continued professional development records

    This is not a definitive list; other evidence sources are allowable
- It should not include any methods of self-assessment
- Any employer contributions should focus on direct observation of evidence (for example witness statements) of competence rather than opinions
- The evidence provided must be valid and attributable to the apprentice; the portfolio of evidence must contain a statement from the employer confirming this
- The portfolio of evidence must be submitted to the SIAS at the gateway point

End-Point Assessment

The apprentices' knowledge, skills and behaviours will be measured against the Core Knowledge, Core Skills, Core Behaviours, and pathway specific elements of the apprenticeship Standard.

These will be judged in 2 Stages as detailed below:

Stage 1 – Observation with Question and Answer

Stage 2 – Professional Discussion

Stage 1 Observation with Question and Answer

The observation should take **2 hours**. The End-Point Assessor should observe sufficient production cycles to be able to accurately assess the competence of the apprentice. The observation may be split into discrete sections held over a maximum of one working day. The length of a working day is typically considered to be 7.5 hours. The End-Point Assessor has the discretion to increase the time of the observation by up to 10% to allow the apprentice to complete a task.

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

Each apprentice will be assessed against the core KSBs relevant to this assessment method and those relating to their chosen option

The following activities MUST be observed during the observation:

For ALL apprentices:

- using safe working practices
- reading and interpreting instructions
- tooling changeover / process & equipment clean down / equipment maintenance e.g., TPM (Total Productive Maintenance)
- completing relevant records
- setting up and running of equipment in accordance with company specification and standards

Plus, the observation requirements for the apprentice's chosen option:

Option 1: Production / assembly (must include an observation of a production or assembly process

- checking of components for damage and that they are in a useable condition
- correct positioning alignment and securing of the components
- securing of the components in position using the specified fastening device / method
- obtaining and following the correct job instructions / standard operating procedures production assembly specifications in accordance with time constraints and the roles and responsibilities identified for the production assembly activity
- producing components which comply with the specification and quality requirements
- carrying out quality checks on component parts and completed assemblies and deal with quality concerns and defects in line with their responsibilities

Option 2: Inspection / quality assurance

- obtaining and following the correct job instructions, inspection / quality procedures and product specifications in accordance with time constraints and the roles and responsibilities identified for the inspection / quality assurance activity
- collecting production samples at the required frequency in accordance with inspection specification and operating procedures
- accurately interpreting the data / results gained from the inspection and testing procedures being used
- recording and reporting inspection findings to the relevant person

Option 3: Logistics / material handling

- safely moving materials to the correct location using the relevant equipment
- obtaining and following the correct job instructions, specification details and specific transfer / handling procedures in accordance with time constraints and the roles and responsibilities identified for the logistics / material handling activity
- moving materials using the appropriate procedures, ensuring the materials are correct, safely loaded, and secure

- checking materials selected to be moved are in line with job requirements
- carrying out quality checks on materials that are to be moved and dealing with quality concerns and damage in line with their responsibilities
- returning equipment to its correct location on completion of the activities and leaving it in a safe and useable condition

Option 4: Production processing / finishing

- performing one processing / finishing operation method e.g., hand processing, manually operated machine processing, fully automated machine processing, combined processing
- obtaining and following the correct job instruction, processing / finishing procedures and equipment operating procedures in accordance with time constraints and the roles and responsibilities identified for the processing / finishing activity
- performing the processing / finishing operation according to instructions and safe operating procedures
- monitoring and controlling the processing / finishing operation

Observation with Questioning Grading Descriptors

Area of the standard to be tested	Grade descriptor
Core Knowledge, Skills and Behaviours	
Complying with health & safety and environmental legislation, regulations K4, K8, K9, S1, S4, S9	**P1** Demonstrates working in a safe manner, following health and safety procedures and does not compromise the safety of self and others e.g., correct use of Control of Substances Hazardous to Health (COSHH) and Personal Protective Equipment (PPE) procedures.
	P2 Carries out tasks in accordance with standard operating procedures, explains the potential implications to health and safety of not following the manufacturing SOPs throughout the observation.
	P3 Carries out tasks in a logical order following the requirements of the organisation
	P4 Describes the benefits of workplace organisation and its impact on safety.
	P5 Demonstrates how to identify, assess, and control health and safety risks within the work environment e.g., check sheets, risk assessments.
	P6 Demonstrates environmental awareness by following company policies and procedures e.g., ISO 14001, 4R's.
	P7 Prepares, handles, transfers and stores materials safely using relevant equipment e.g., flammable materials.
Documentation interpretation and their use S3, S5	**P8** Identifies and demonstrates where to obtain and follow the necessary job instructions, operating procedures and specifications that are used, and how to interpret them.
	P9 Selects and uses appropriate tools, equipment, and materials to carry out the manufacturing operation.

Area of the standard to be tested	Grade descriptor
	P10 Demonstrates how to accurately complete check sheets, monitor process and equipment data efficiently and legibly using the correct terminology.
	P11 Follows the specified sequence and procedure at all times.
	P12 Identifies the correct methods of handling and storing the samples.
	P13 Demonstrates how to interpret the data / results gained from the process.
	P14 Maintains lean manufacturing principles continuously to meet customer demands e.g. Just In Time (JIT).
Lean Manufacturing B2, B6, B10	**P15** Demonstrates a professional approach to work colleagues with regard to equality and diversity within the workplace.
	P16 Maintains quality of work under pressure e.g. When problems occur.
	P17 Follows instructions and guidance demonstrating attention to detail e.g. Following SOP's.
Option 1: Production / Assembly	
K10, K11, K13, S10, S11, S12, S13, S14, S15	**P18** Demonstrates correctly positioning, aligning, and securing the components in position using the specified fastening device / method
	P19 Applies the relevant component checks to ensure they are free from damage and that they are in a usable condition.
	P20 Describes how to carry out quality checks on component parts and completed assemblies and deals with quality concerns and defects in line with their responsibility e.g., boundary samples specifications.
	P21 Follows SOP exactly every work cycle, escalating any abnormality or deviation from the standard.
	P22 Is able to show the assessor the correct location of SOPs for relevant process.
Option 2: Inspection / Quality Assurance	
K15, K16, K17 S16, S17, S18, S19, S20, S21	**P23** Demonstrates their understanding of inspection / quality assurance operations by reciting the part specification being used during observation.
	P24 Collects production samples at the required frequency in accordance with inspection specification and operating procedures. Prepares, handles, transfers, and stores samples safely and correctly in accordance with quality control procedures.
	P25 Describes how to accurately interpret data / results gained from the inspection and testing procedures being used, recording, and reporting inspection findings.

Area of the standard to be tested	Grade descriptor
	P26 Identifies the tools and techniques used for handling and segregation of defective components ensuring the specific safe working practices and environmental regulations are met.
Option 3: Logistics / Material Handling	
K20, K21, K24, S22, S23, S24, S25, S26, S27	**P27** Demonstrates their ability to move materials using the appropriate procedures, ensuring the correct materials are safely loaded and secure.
	P28 Demonstrates the materials selected to be moved are in line with job requirements. Safely move materials to the correct location using the relevant equipment.
	P29 Demonstrates the quality checks on materials that are to be moved and deal with quality concerns and damage in line with their responsibility, return equipment to its correct location on completion of the activities and leave in a safe and usable condition.
	P30 Demonstrates the lifting and handling procedures, and load bearing capacities of the equipment being used.
Option 4: Production processing / finishing	
K26, K27, K29, S28, S29, S30, S31, S32, S33	**P31** Demonstrates their ability to perform the processing / finishing operation according to instructions and safe operating procedures.
	P32 Performs one processing / finishing operation method e.g., hand processing, manually operated machine processing, fully automated machine processing, combined processing.
	P33 Demonstrates their ability to monitor and control the processing / finishing operation.
	P34 Performs quality checks on component parts and completed assemblies and deals with quality concerns and defects in line with their responsibility.
	P35 Demonstrates their ability to produce processed / finished products which comply with processing specification.
	P36 Demonstrates how they can work independently and effectively in challenging situations.

Stage 2 Professional Discussion

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

The professional discussion must last for **40 minutes**. The End-Point Assessor has the discretion to increase the time of the professional discussion by up to 10% to allow the apprentice to complete their last answer. Further time may be granted for apprentices with appropriate needs in line with the SIAS's Reasonable Adjustment Policy.

During this method, the End-Point Assessor must ask a **minimum of 10 questions** and should combine questions from the SIAS's question bank and those generated by themselves.

The professional discussion will be conducted as set out here:

- prior to the professional discussion the End-Point Assessor must have reviewed the apprentice's portfolio of evidence and tailored / devised questions.
- the apprentice and End-Point Assessor may refer to the portfolio of evidence during the professional discussion if required.

The purpose of the professional discussion is to:

- demonstrate the apprentice can apply the broad range of knowledge, skills and behaviours in the occupational standard that are assigned to this assessment method.
- clarify any questions the End-Point Assessor has from their review of the portfolio of evidence 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 from a professional discussion for the grade to be awarded.

The professional discussion may be observed by a technical expert (TE) who will play the following role:

- 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 employers' technical expert must only be at the request of the End-Point Assessor. The End-Point Assessor has the final say over the assessment and grade awarded. The employer technical expert must not provide evidence on behalf of the apprentice or influence the apprentice in any way. The technical expert must not amplify or clarify points made by the apprentice.

The End-Point Assessor will make all grading decisions.

Professional Discussion Grading Descriptors

Area of the standard to be tested	Grade descriptor
Core Knowledge, Skills and Behaviours	
Complying with health & safety and environmental legislation, regulations K1, K2, K5, S2, B1	**P1** Describes employer policy and expectations on punctuality and attendance and how they have met these.
	P2 Describes the main Health, Safety and Environmental considerations for a lean manufacturing operative e.g., COSHH, HASAWA
	P3 Describes the specific statutory, quality, environmental compliance procedures / systems, organisational and health and safety regulations relevant to their work activities. e.g., ISO 14001 or other relevant environmental standards.
	P4 Describes the employer's environmental practices and explains how they have disposed of waste in line with policy by explaining how this was done in accordance with waste streams e.g., sorts recyclable materials from non-recyclable materials re-uses materials where appropriate
K1, K2	**D1** Explains how they have made an improvement to health, safety, and environmental processes within their workplace.

Area of the standard to be tested	Grade descriptor
	D2 Explains when they have promoted a culture of safety by acting as a role model, identifying risks and non-compliances, advising others how to make their practice safer.
	D3 Explains the information available to address safety, quality, cost, and environmental data to recognise potential concerns and support countermeasure activity (proactive)
Continuous Improvement K3, K6, K7, S6, S7, S8 B3, B4, B5, B7, B8, B9, B11	**P5** Describes Continuous Improvement and how to use the tools and methods of effective problem solving e.g. A3 report, graphs, matrices and escalate concern.
	P6 Describes how to study and identify ways to improve the safety, quality, cost, or process efficiency using lean manufacturing tools e.g., kaizen.
	P7 Describes roles and responsibilities within the organisation and the flexibility required to deliver products to meet customers costs / delivery targets / requirements e.g., project plan.
	P8 Explains when they have responded positively to change with open and honest communication e.g., listens to other opinions.
	P9 Explains what teamwork is and how they support others as well as how they work independently in challenging situations.
	P10 Explains their individual role and responsibilities within the organisation and the flexibility required to deliver products to meet customers costs / delivery targets / requirements e.g. Just in time (JIT).
K6, K7, K8	**D4** Describes their use of advanced problem-solving tools and methods of effective problem-solving using data, reports, and documents to resolve production related issues e.g. A3 report, graphs, matrices and escalate concerns.
	D5 Explains why the use of effective problem-solving tools and techniques to identify and resolve problems within the lean manufacturing environment is critical to their role.
	D6 Explains the consequences of failing to operate problem solving techniques within the limits of their responsibility.
	D7 Explains the need to escalate problems as appropriate and the consequences of not escalating problems e.g. The 8 steps of problem solving.
	D8 Explains how they have identified new ideas and contributed to process improvement activities individually or as part of a team e.g., fact-finding and analysis to improve the safety, environment, quality, cost, or production process.
	D9Describes the appropriate use of different communication skills e.g., oral, written, electronic (PC), information boards or visual displays to effectively share information in different scenarios. Explains how they have used these communication tools or observed these in use.

Area of the standard to be tested	Grade descriptor
Option 1: Production / Assembly	
Documentation interpretation and their use K12, K14	**P11** Describes the procedure for positioning, aligning, and securing component parts during the assembly operations.
	P12 Describes how they resolve current and potential production / assembly problems within the limits of their responsibility e.g., escalates concern to supervisor
Option 2: Inspection / Quality Assurance	
K18, K19	**P13** Describes the specific safe working practices and environmental regulations that need to be observed and relevant quality standards e.g., ISO 9002.
	P14 Describes the procedures for the handling and segregation of defect components.
Option 3: Logistics / Material Handling	
K22, K23	**P15** Describes the procedures for the movement and transferring of materials to the correct location within given timelines.
	P16 Describes the tools and equipment used for the material movement operations undertaken and how to check that they are in a safe and usable condition.
Option 4: Production Processing / Finishing	
K25, K28	**P17** Describes the tools and equipment used for the processing / finishing operations undertaken and how to check that they are in a safe and usable condition.
	P18 Explains the procedure for the recovery or restart of manufacturing due to quality or process concern e.g., reporting process.

Overall Grading

End-Point Assessor must individually grade each assessment method according to the requirements set out in this plan. Restrictions on grading apply where apprentices re-sit / retake an assessment method – see re-sit / re-take section below.

Both assessment methods must be passed for the EPA to be graded a Pass overall.

A fail in one or both of the assessment methods will result in a fail in the EPA.

Apprentices must pass the observation and gain a distinction in the professional discussion to gain an overall EPA distinction.

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

Assessment Method 1 – Observation	Assessment Method 2 – Professional Discussion	Overall Grading
Fail	Any grade	Fail
Any Grade	Fail	Fail
Pass	Pass	Pass
Pass	Distinction	Distinction

Moderation

SIAS will undertake moderation of End-Point Assessor decisions through observations and examination of documentation on a risk sampling basis, i.e., a minimum of 20% for experienced End-Point Assessors and 100% for new End-Point Assessors or where inconsistencies have been identified. Results cannot be confirmed until moderation has been completed.

Re-takes / re-sits

Apprentices who fail one or more assessment method will be offered the opportunity to take a re-sit or a re-take. A re-sit does not require further learning, whereas a re-take does.

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

An apprentice who fails an assessment method, and therefore the EPA in the first instance, will be required to re-sit those failed assessment methods only.

Any assessment method re-sit or re-take must be taken within 16 weeks of the fail notification, otherwise the entire EPA must be taken again, unless in the opinion of SIAS exceptional circumstances apply outside the control of the apprentice or their employer.

Re-sits and re-takes are not offered to apprentices wishing to move from Pass to Distinction.

Where any assessment method has to be re-sat or re-taken, the apprentice will be awarded a maximum EPA grade of pass, unless SIAS determines there are exceptional circumstances requiring a re-sit or re-take.

If a re-take / re-sit relates to the observation, the apprentice must be presented with a different task, which must cover the same components / activities.

If the re-take / re-sit relates to the professional discussion the apprentice must be questioned on the same subject area but using a separate set of questions.

Certification

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

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

Assessment Specification

The assessment specification can be found in the published assessment plan for the standard. Details of which elements of the apprenticeship standard will be tested by each test are given in the Assessment Method Matrix section of this guide.

Assessment Method Matrix

Assessment methods:

OB = Observation

PD = Professional Discussion

Apprentice Optional Requirements:

ALL = All apprentices to complete – Core

PA = Production / Assembly – Option 1

IQA = Inspection / Quality Assurance – Option 2

LMH = Logistics / Material Handling – Option 3

PPF = Production Processing / Finishing – Option 4

KSB Code	KSB Statement	Methods mapped against	Apprentice requirements
Core – All apprentices must complete			
Knowledge			
K1	Health & Safety: Relevant statutory, organisational and health and safety regulations relating to lean manufacturing operations and safe practices	PD	ALL
K2	Environmental: Compliance procedures / systems in line with regulatory requirements e.g., ISO 14001 or other relevant environmental standards	PD	ALL
K3	Production: Their individual roles and responsibilities within the organisation and the flexibility required to deliver products to meet customers costs / delivery targets / requirements e.g. Just in time (JIT)	PD	ALL
K4	Lean Manufacturing Operations: Manufacturing standard operation procedures (SOPs) adherence and development of lean processes	OB	ALL
K5	Process equipment monitoring, data collection, error proofing and operating procedures e.g., ISO 9002 or other relevant quality standards	PD	ALL
K6	Problem Solving: The tools and methods of effective problem-solving using data, reports, and documents to resolve production related issues e.g. A3 report, graphs, matrices and escalate concerns	PD	ALL
K7	Continuous Improvement: How to study and identify ways to improve the safety, quality, cost, or process efficiency using lean manufacturing tools e.g., kaizen	PD	ALL
K8	Communication: How to share information using a range of methods within the manufacturing environment e.g., oral, written, electronic, information boards, visual displays	OB	ALL

KSB Code	KSB Statement	Methods mapped against	Apprentice requirements
K9	Workplace Organisation: How to maintain a safe and efficient work site through workplace organisation e.g., 5s and process ownership	OB	ALL
Core – All apprentices must complete			
Skills			
S1	Health & Safety: Work safely at all times, complying with health and safety legislation, regulations, and other relevant guidelines. Identifying risks within their processes and support / carry out countermeasure activities to improve safe working. Manage tooling, equipment, and materials daily in-line with supplier standards e.g., COSHH (Control of Substances Hazardous to Health)	OB	ALL
S2	Environmental: Comply with environmental procedures and systems and contribute to the achievement of specific standards e.g., ISO 14001 or other relevant environmental standards and use the 4R's (Reduce, Re-use, Recycle, Recover) where possible	PD	ALL
S3	Production: Demonstrate their ability to carry out their role effectively, efficiently, and flexibly maintaining lean manufacturing principles to meet customer's demands e.g., JIT	OB	ALL
S4	Lean Manufacturing Operations: Demonstrate their skill and knowledge following SOPs and building their versatility across a number of processes and process areas. Select and use appropriate tools, equipment, and materials to carry out the manufacturing operation	OB	ALL
S5	Quality Control: Demonstrate appropriate process documentation control. Accurately completing check sheets, monitoring process and equipment data efficiently and legibly using the correct terminology required to meet the quality standard e.g., ISO 9002	OB	ALL
S6	Problem Solving: Demonstrate their ability to identify and resolve problems within the lean manufacturing environment using effective problem-solving tools and techniques. Manage problems that may occur during the manufacturing process within the limits of their responsibility and escalate as appropriate	PD	ALL
S7	Continuous Improvement: Generate ideas and contribute to process improvement activities individually or as part of a team through fact finding and analysis to improve the safety, environment, quality, cost, or production process. Identifying and eliminating the 7 wastes (defects, over production, transportation, waiting, inventory, motion, and processing)	PD	ALL
S8	Communication: Demonstrate communication skills which include oral, written, electronic (PC), information boards or visual displays to effectively share information	PD	ALL

KSB Code	KSB Statement	Methods mapped against	Apprentice requirements
S9	Workplace Organisation: Maintains and monitors the work site efficiently and effectively at all times using the elements of sifting, sorting, sweeping, spick & span (5's) within the lean manufacturing environment	OB	ALL
Core – All apprentices must complete			
Behaviours			
B1	Punctual, reliable, and takes responsibility for their own actions	PD	ALL
B2	Show respect for others, having regard for diversity and equality	OB	ALL
B3	Respond positively to change in the working environment	PD	ALL
B4	Integrates within the team and supports others	PD	ALL
B5	Can work independently and effectively in challenging situations	PD	ALL
B6	Maintains quality of work under pressure	OB	ALL
B7	An open and honest communicator	PD	ALL
B8	Listens to other people's opinions	PD	ALL
B9	A positive and respectful attitude	PD	ALL
B10	Follows instructions and guidance and demonstrates attention to detail.	OB	ALL
B11	Seeks opportunities to develop and adapt to different situations, environments, or technologies	PD	ALL
Option 1 – Production / Assembly			
Knowledge			
K10	The importance of following the specified assembly sequence and procedure at all times	OB	PA
K11	How to check the quality of the assembly, against the required quality standards and what tools and equipment are used	OB	PA
K12	The procedure for positioning, aligning, and securing component parts during the assembly operations	PD	PA
K13	Where to obtain the necessary job instructions, operating procedures and assembly specifications that are used, and how to interpret them	OB	PA

KSB Code	KSB Statement	Methods mapped against	Apprentice requirements
K14	How to Identify and resolve current and potential production / assembly problems within the limits of their responsibility	PD	PA
Skills			
S10	Check components for damage and that they are in a usable condition	OB	PA
S11	Correctly position, align and secure the components	OB	PA
S12	Secure the components in position using the specified fastening device / method	OB	PA
S13	Obtain and follow the correct Job instructions / Standard operating procedures production / assembly specifications in accordance with time constraints and the roles and responsibilities identified for the production / assembly activity	OB	PA
S14	Produce components which comply with the specification and quality requirements	OB	PA
S15	Carryout quality checks on component parts and completed assemblies and deal with quality concerns and defects in line with their responsibility	OB	PA
Option 2 – Inspection / Quality Assurance			
Knowledge			
K15	The correct methods of handling and storing the samples	OB	IQA
K16	Where to obtain the necessary job instructions, inspection / quality procedures and product specifications that are used, and how to interpret them	OB	IQA
K17	How to identify which samples, products and materials do not meet the quality requirements	OB	IQA
K18	Procedures for the handling and segregation of defect components	PD	IQA
K19	Specific safe working practices and environmental regulations that need to be observed	PD	IQA
Skills			
S16	Obtain and follow the correct Job instructions, inspection / quality procedures and product specifications in accordance with time constraints and the roles and responsibilities identified for the inspection / quality assurance activity	OB	IQA
S17	Collect production samples at the required frequency in accordance with inspection specification and operating procedures	OB	IQA
S18	Carryout inspection and testing activities using the specified methods and equipment	OB	IQA

KSB Code	KSB Statement	Methods mapped against	Apprentice requirements
S19	Prepare, handle, transfer, and store samples safely and correctly in accordance with quality control procedures	OB	IQA
S20	Accurately interpret the data / results gained from the inspection and testing procedures being used	OB	IQA
S21	Record and report inspection findings to relevant person	OB	IQA
Option 3 – Logistics / Material Handling			
Knowledge			
K20	The procedures and documentation required to allow the transfer of materials to take place	OB	LMH
K21	Where to obtain the necessary job instructions, specification details and specific transfer / handling procedures that are used, and how to interpret them	OB	LMH
K22	The procedures for the movement and transferring of materials to the correct location within given timelines	PD	KMH
K23	What tools and equipment are used for the material movement operations undertaken and how to check that they are in a safe and usable condition	PD	LMH
K24	The lifting and handling procedures, and load bearing capacities of the equipment being used	OB	LMH
Skills			
S22	Safely move materials to the correct location using the relevant equipment	OB	LMH
S23	Obtain and follow the correct Job instructions, specification details and specific transfer / handling procedures in accordance with time constraints and the roles and responsibilities identified for the logistic / material handling activity	OB	LMH
S24	Move materials using the appropriate procedures, ensuring the materials are correct, safely loaded, and secure	OB	LMH
S25	Check materials selected to be moved are in line with job requirements	OB	LMH
S26	Carry out quality checks on materials that are to be moved and deal with quality concerns and damage in line with their responsibility	OB	LMH
S27	Return equipment to its correct location on completion of the activities and leave it in a safe and usable condition	OB	LMH
Option 4 – Production Processing / Finishing			
Knowledge			

KSB Code	KSB Statement	Methods mapped against	Apprentice requirements
K25	What tools and equipment are used for the processing / finishing operations undertaken and how to check that they are in a safe and usable condition	PD	PPF
K26	Where to obtain the necessary job instructions, processing / finishing procedures and equipment operating procedures that are used, and how to interpret them	OB	PPF
K27	Specific safe working practices, processing / finishing procedures and environmental regulations that need to be observed	OB	PPF
K28	The procedure for the recovery or restart of manufacturing due to quality or process concern	PD	PPF
K29	The importance of following the pre-determined sequence of events in the processing / finishing operation and the consequences of not following them	OB	PPF
Skills			
S28	Perform one processing / finishing operation method e.g., hand processing, manually operated machine processing, fully automated machine processing, combined processing	OB	PPF
S29	Obtain and follow the correct job instructions, processing / finishing procedures and equipment operating procedures in accordance with time constraints and the roles and responsibilities identified for the processing / finishing activity	OB	PPF
S30	Perform the processing / finishing operation according to instructions and safe operating procedures	OB	PPF
S31	Monitor and control the processing / finishing operation	OB	PPF
S32	Carry out quality checks on component parts and completed assemblies and deal with quality concerns and defects in line with their responsibility	OB	PFF
S33	Produce processed / finished products which comply with processing specification	OB	PFF

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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