ENERGY & UTILITY SKILLS

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EUIAS Level 4 End-point Assessment Apprentice Guide for

Lead Engineering Maintenance Technician

QAN 610/3506/3

ENERGY & UTILITIES INDEPENDENT ASSESSMENT SERVICE

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Updates to this Guide

Since the first publication of the EUIAS Lead Engineering Maintenance Technician Apprentice Guide, the following updates have been made.

Version	Date first published	Section updated	Page(s)
v1.0	March 2024	First published	All

At A Glance Component 1: Project – Report and presentation with questions

Section 1: Project with a project output (Project Report)

EPA Start Date	
Initial Submission 500 Word Project Brief, Project Title, Scope Declaration and sign-off. Date EUIAS confirm it is suitable to proceed with the Project	
Additional Requirements	A mapping document must be submitted with the project report
Final Submission Project: Report, Presentation Declaration Sign-off Form. Date submitted to EUIAS (this must be by the end of week 13 of the EPA period)	

Section 2: Presentation with questions

EPA Start Date	
Presentation, Speaker Notes and Supporting Materials. Date submitted to EUIAS (this must be by the end of week 13 of the EPA period)	
Date of Presentation (with questions)	
Presentation Time	
Presentation Location	
Examination Conditions:	With an EUIAS Independent assessor in your place of work, training environment or via video conferencing such as Microsoft Teams
Additional Requirements:	
Assessed and marked by:	Independent assessor/EUIAS

At A Glance Component 2: Professional Discussion based on a portfolio of evidence

Professional Discussion Date(s):	
Time:	
Location:	
Examination Conditions:	With an EUIAS Independent assessor in your place of work or training environment
Additional Requirements:	A mapping document must be submitted with the portfolio of evidence
Assessed and marked by:	Independent assessor/EUIAS

Introduction

EUIAS has been selected by your employer to carry out end-point assessment (EPA) and it is our job to ensure that you are assessed fairly.

How This Apprentice Guide Is Organised

- ✓ Section 1:

  What is in the Apprentice Guide?

- ✓ Section 2:

  An Apprentice's End-point Assessment Journey

- ✓ Section 3:

  End-point Assessment Components

How to Use This Guide

This guide has been split into 3 sections. You can dip into each section that you are working on where you will find useful information, practical advice, tips you need and useful dates to successfully complete your EPA.

Throughout we have used headings and cross referenced to our EPA Lead Engineering Maintenance Technician (LEMT) Specification which provides details of the EPA components.

Section 1: The Basics

What is an Apprenticeship Standard?

An apprenticeship standard is a description of your apprenticeship and it is based on the Lead Engineering Maintenance Technician standard, which was written by employers. It contains the lead engineering maintenance technician job profile, and describes the knowledge, skills and behaviours (KSBs):

- Knowledge: (as part of KSBs) – specific information, technical detail, and 'know-how' identified as part of the apprenticeship standard that must be evidenced during your end-point assessment
- Skills: (as part of KSBs) – the practical application of knowledge identified as part of the apprenticeship standard that must be evidenced during end-point assessment
- Behaviours (as part of KSBs) – specific mindsets, attitudes or approaches identified as part of the apprenticeship standard that must be evidenced during end-point assessment

The standard can be accessed via the link below:
https://www.instituteforapprenticeships.org/apprenticeship-standards/lead-engineering-maintenance-technician-v1-0?view=standard

What is an Assessment Plan?

An Assessment Plan is also written by employers and provides details of what is required for you to pass your end-point assessment. It includes details of what you will be assessed on, how each assessment will take place, what methods will be used and who will assess you.

EUIAS designed the end-point assessment (EPA) to meet the requirements of the Assessment Plan. The Assessment Plan can be accessed via the link below:
https://www.instituteforapprenticeships.org/apprenticeship-standards/lead-engineering-maintenance-technician-v1-0?view=epa

What is an end-point assessment (EPA)?

The end-point assessment is the assessments you take at the end of your apprenticeship. Your apprenticeship will typically take 36 months. You are required to spend a minimum of 12 months on-programme. After this you have a Gateway meeting with your employer or training provider to confirm you are ready for the end-point assessments. The words end-point means that you will be assessed at the end of your on-programme (training) to confirm you have met the standard. Your EPA period typically last 6 months. The end-point assessments consist of 2 components:

- Component 1: Project: Report and presentation with questions
- Component 2: Professional Discussion based on your portfolio of evidence

Each component has a provisional grade and each grade is carried forward to award a final grade. You must pass both components to pass your apprenticeship.

The final grade can be a Fail, Pass, Merit or Distinction.

What are the Gateway Requirements?

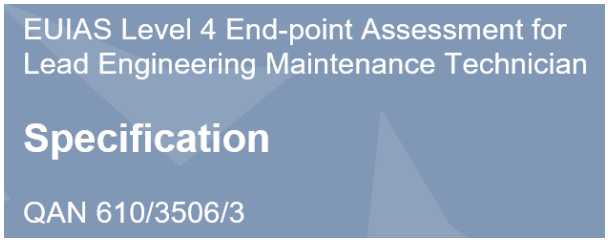
Gateway is a meeting where your employer, training provider and you ensure that you are confident that you can demonstrate all the KSBs defined in the apprenticeship standard and you are ready for EPA. After the meeting, your training provider will confirm the outcomes of the Gateway meeting by sending a signed document to EUIAS. The document confirms that you have met the following Gateway requirements:

- achieved English and maths in line with the apprenticeship funding rules
- achieved BTEC Higher National Certificate in Engineering (General Engineering) or BTEC Higher National Certificate in Engineering (Operations Engineering)
- compiled and submitted a 500-word project brief and agreed the project title and scope with EUIAS for the project: report and presentation with questions at gateway
- compiled and submitted a portfolio of evidence with a mapping document, which the professional discussion will be based on

Your training provider will send copies of these documents to EUIAS.

What is the EPA Specification?

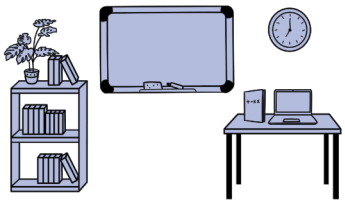
The end-point assessment specification provides details of the assessment methods used in your EPA, which:



- KSBs that are covered by each Assessment
- KSBs amplification and guidance

The Specification can be accessed via the link below:
https://www.euias.co.uk/wp-content/uploads/2024/01/Lead-Engineering-Maintenance-Technician-EPA-Specification-v1.0.pdf

Section 2: Apprentice EPA Journey



Let us Begin Your EPA Journey.

Find a quiet place and read on….

Lead Engineering Maintenance Technician is a core apprenticeship standard. You must be trained and assessed against the core Knowledge, skills and behaviours (KSBs).

Your EPA journey consists of 3 elements:

- A training programme with on the job, off the job elements, typically 36 months
- Gateway meeting window
- End-point Assessment (EPA) typically 6 months

Your journey begins with the training program. Your employer and training provider are responsible for this part. This is where you will gain the required Knowledge, Skills and Behaviours (KSBs).

How will you be assessed in the end-point assessment?

You will be assessed on the following components, which can be taken in any order:

1. **Project - Report and Presentation with Questions. This assessment has 2 sections:**
    - Section 1: Project Report
    - Section 2: Presentation with questions

    It is essential that your employer working with your training provider has the scope and opportunity for you to carry out project that covers all the requirements as set out in the EUIAS End Point Assessment Specification. It is not possible to pass the assessment without covering all the required elements.
2. **Professional Discussion based on your portfolio of evidence**

It is important for you to keep a record of when your 2 components are scheduled. We suggest you use the ‘At a Glance’ tables on page 5.

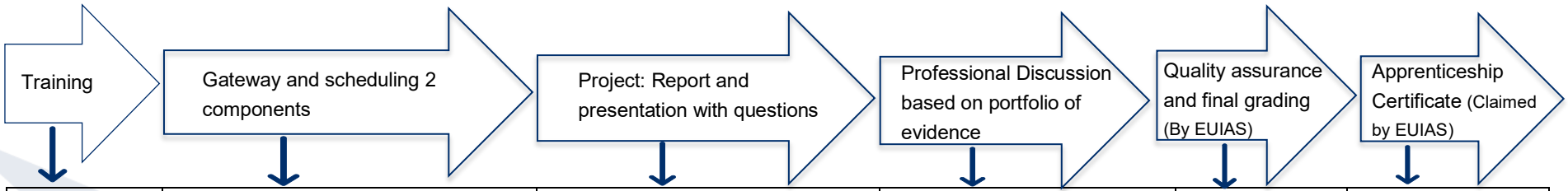
You must pass both components to achieve this qualification. For further guidance refer to Section 3 End-point Assessment Components.

Reasonable adjustments

A reasonable adjustment is any action that helps to reduce the effect of a disability or difficulty that places you at a substantial disadvantage during assessments. If this applies to you make sure you tell your training provider who can make an application for a reasonable adjustment to EUIAS on your behalf.

Your EPA Journey in a Diagram

The diagram below illustrates the order of your EPA **journey** from the day you register to your final certification:



Typically, 36 months	You have: • Been informed by your employer/training provider that you have successfully completed Gateway requirements and can start the EPA • Achieved English and maths in line with apprenticeship funding rules • BTEC Higher National Certificate in Engineering (General Engineering) or BTEC Higher National Certificate in Engineering (Operations Engineering)	**Project report** you must: • Submit a 500-word project brief, title and scope at Gateway to EUIAS to who will confirm whether the project is suitable to proceed with • Submit the final project report and its contents to EUIAS by the end of week 13 of the End-point Assessment (EPA) period **Presentation with**	60 minutes. The independent assessor has the discretion to increase the time of the professional discussion by up to 6 minutes, to allow you to complete your last answer. Under examination conditions. Face to face or remote as agreed and recorded using relevant technology.	Awarded Final Grading: Distinction, Merit, Pass or Fail.	ESFA will send your Certificate to your training provider or employer. Contact your training provider or employer if you do not receive your certificate.

	• compiled and submitted a 500-word project brief and agreed the project title and scope with EUIAS for the project: report and presentation with questions at gateway • compiled and submitted a portfolio of evidence, which the professional discussion will be based	**questions:** • Submit presentation, speaker notes and supporting materials to EUIAS by the end of week 13 of the EPA • Lasts 45 minutes and this will typically include a presentation for 20 minutes and questioning lasting 25 minutes. The independent assessor has the discretion to increase the time of the professional discussion by up to 4.5 minutes, to allow you to complete your last answer. For further Project: Report and Presentation with questions details refer to *see below.	For further Professional Discussion based on the portfolio of evidence details refer to *see below.		

*For further details refer to Section 3 in this Apprentice Guide or Section 2 of the Specification.

Section 3: End-point Assessment Components

Now let us continue your journey through EPA. There are 2 components that you must pass to be awarded a certificate.

Component 1: Project – Project Report and presentation with questions

Section 1: Project Report

Overview

The project must be in the form of a report. Before starting the project report you must submit a 500 word project brief, title and scope to your employer/training provider at Gateway. A document to help with this is LEMT Supporting Documents. See Appendix C 'LEMT 500 Word Project Brief, Project Title, Scope, Declaration and Sign-off Form.'

Your employer/training provider will submit the form to EUIAS who will review it and confirm whether the project is suitable to proceed.

You must start the project report after Gateway once sign-off is confirmed by EUIAS. The project report, its contents, presentation and presentation speaker notes must be produced by you unaided. You must submit the final project report, presentation and presentation speaker notes to EUIAS by the end of week 13 of the End-point Assessment (EPA) period.

Step-by-Step Guide

The table below provides a step-by-step guide on how the project report will be carried out:

How should I organise my project report?

You must produce a project report that has a real business application and benefit to your business and it can be based on any of the following:

- a specific problem
- a recurring issue
- an idea or opportunity

Your project:

- must include a maintenance, fault finding and repair related activity
- can be a desk study or a site-based project
- must explore technical leadership in maintenance concepts and practices in depth
- cover the following assessment themes:

Assessment Theme	Amplification and Guidance
Health and Safety	Implementing health and safety policies, risk assessment
Procedures and work instructions	Following manufacturers' instructions, standard maintenance procedures
Task management	Planning and scheduling tasks, managing tasks, evaluating tasks
Problem solving	Problem identification, application of methods to identify cause and solutions to problem, interpretation of engineering data applied to changes
Technical leadership	Technical leadership of maintenance, repair and fault finding practices and techniques
Communication	Written communication techniques (informal and formal)

You must start your project report after you have gone through gateway.

Your employer/training provider must submit the final project report and its contents to EUIAS by the end of week 13 of the End-point Assessment (EPA) period.

What will I need to include in the project report?	You must include at least: • a 200 word executive summary • an introduction • the scope of the project (including key performance indicators, aims and objectives) • project plan that includes stakeholder considerations and a brief rationale of how the aims and objectives will be met. This must include consideration of the maintenance method i.e. planned, preventative, predictive and reactive • data analysis outcomes • project outcomes • recommendations and conclusions • references • appendix containing mapping of KSBs in the project report The project report has a word count of 5000- 5500 words. Appendices, references and diagrams are not included in this total. You must map your evidence, see Appendix B 'Section 1: Project: Report Mapping Document', to show how you have mapped the KSBs outlined below.
What theme, knowledge, skills and behaviours (KSBs) do I have to cover in my project report?	**Theme and KSBs** **Health and safety** **K2** Risk identification, risk assessments, mitigations and safe systems of work **S4** Identify and document risks and hazards in the workplace. Advise on and apply control measures **B2** Prioritise and promote health and safety **Procedures and work instructions** **K10** Manufacturers' instructions: what they are and how to use them. Warranties: what they are and impact on engineering maintenance work **S3** Follow manufacturers' instructions and standard maintenance procedures

Task Management

K5 Engineering materials: characteristics, properties and impact on use

K7 Maintenance and engineering strategies, practices and techniques: planned, preventative, predictive and reactive

K15 Planning, prioritising, work scheduling, workflow and time management techniques. Work management systems. Work categorisation systems

K19 Resources: Human, physical, space, documentation, tooling, specialist equipment, spares and materials: Stock and services considerations

K22 Project management techniques: Strengths, Weaknesses, Opportunities, Threats (SWOT), stakeholder matrices, risk mapping and summary risk profiles

S6 Plan and schedule tasks, projects or resources in the workplace

S7 Manage tasks, projects or resources in the workplace

S8 Evaluate tasks, projects or resources in the workplace

Problem solving

K4 Engineering mathematical and scientific principles: methods, techniques, graphical expressions, symbols, formulae and calculations

K6 Problem solving techniques: diagnostics, root cause analysis, 6 thinking hats, DMAIC (Define, Measure, Analyse, Improve, Control), PDCA (Plan Do Check Act). Fault finding techniques: root cause analysis, 5 Whys', fishbone, half-split

S17 Identify problems and apply methods to identify causes and solutions. Escalate issues or concerns

S19 Interpret and use information from engineering data sources to apply changes

	Technical Leadership **K8** Standard operating procedures and work instructions: rationale, review and updates **K9** Engineering, manufacturing and maintenance technical information, related documentation, such as job records, service reports, checklists and condemn notices, representations, drawings, graphical information, visuals and symbols **S14** Provide technical leadership for maintenance practices and techniques. **S15** Provide technical leadership for repair practices and techniques **S16** Provide technical leadership for fault finding techniques and practices **Communication** **K17** Communication techniques: written. Writing using plain English principles. Report writing **S10** Communicate in writing **For amplification and guidance see Section 2 of the LEMT Specification.**
Can I work as part of a team to complete the project?	You may work as part of a team which could include technical internal or external support. However, the project report and its contents must be your own work and reflective of your own role and contribution. **Your employer/training provider must work with you to confirm that the project report is your own work.**
What resources can I use?	Your employer/training provider should ensure that: • you have the time to plan and complete your project report and its contents • relevant work instructions/manuals required are made available to you to use in hard copy or electronically • you are provided with equipment and resources needed for the project report

	• you have access to equipment and resources on a daily basis • you have the required PPE for the project • you have access to plant, machinery, equipment which must be in good and safe working condition The apprentice must complete their project and the production of its components unaided.
Who will support me with my project report?	Your employer/training provider must provide support and if you are working as part of a team, they must ensure you have access to technical internal or external support. You must ensure in the project report you reflect your own role and the contributions you have made.
Will my project be assessed?	The project report and its contents will be assessed together with your presentation and questions by the independent assessor when they are deciding your final grade.
Provisional Grading	Project: Report and presentation with questions are graded together: Fail, Pass or Distinction.

Section 2: Presentation with questions

Overview

The presentation with questions will require you to present your presentation to an independent assessor. Your employer/training provider will inform you of where it will take place, date and time. The independent assessor will ask questions after your presentation. During the presentation you will have the opportunity to demonstrate the KSBs mapped to this assessment method.

Step-by-Step Guide

The table below provides a step-by-step guide on how the presentation with question will be carried out:

Who will assess me?	1 independent assessor, appointed by EUIAS.
What must my presentation cover?	You must produce a presentation which includes speaker notes and supporting materials on a set subject. Your presentation must include: • an overview of the project • the project scope (including key performance indicators) • summary of actions taken by you • project outcomes and how you achieved these You must demonstrate the KSBs listed above on pages 18 – 20 or the grading criteria in Section 3 of the specification. **For amplification and guidance see Section 2 of the LEMT Specification.**
What must be submitted to EUIAS and when?	Your employer/training provider must submit your: • presentation • speaker notes • supporting materials • project report and its contents **to EUIAS by the end of week 13 of the End-point Assessment (EPA) period.**

How will the presentation with questions be organised?	**Location:** Your presentation with questions will take place at your employer's premises or a suitable venue, it can be conducted by video conferencing. **Resources required for the presentation:** Your employer/training provider working in collaboration with EUIAS will ensure you have access to: • audio-visual presentation equipment • flip chart and writing and drawing materials • computer • any other requirements that are notified to EUIAS **Time:** Your presentation with questions will last 45 minutes and this will typically include a presentation for 20 minutes and questioning by the independent assessor lasting 25 minutes. The independent assessor has the discretion to increase the total time of the presentation with questions by up to 4.5 minutes, to allow you to complete your last answer. **Your presentation with questions will be:** • between you and the independent assessor • face to face or remote, as agreed • assessed and outcomes will be recorded by the assessor on official EUIAS Project: Report and presentation with questions documents • recorded using the relevant technology such as Microsoft Teams or an audio recording device
When will my presentation with questioning take place?	EUIAS will work with your employer/training provider and provide at least 2 weeks notice of the date.
How many questions will I be asked?	The independent assessor: • will ask at least 4 standardised open questions to assess your level of knowledge, skills and behaviours

	• may ask follow-up questions in order to seek clarification from you
What will the questions focus on?	The independent assessor's questions will assess the following themes: • Health and safety • Procedures and work instructions • Task management • Problem solving • Technical leadership • Communication The independent assessor's questions will also: • seek clarification on the project report or presentation • you to verify that the project is your own work • assess the KSBs
When will the questions be asked?	The independent assessor will ask questions after the presentation.
Provisional Grading	The independent assessor will award a provisional grade. You must pass **ALL** the pass criteria in order to achieve a pass.
Overall grading for this component	Project: Report and presentation with questions are graded together: Fail, Pass or Distinction.

Practice Component 1: Project: Report and presentation with questions

You should have an opportunity to have a practice session to present your presentation where questions which mirror the real assessment will be asked by your manger/supervisor or the technical person playing the role of the assessor. A practice presentation with questions would be set up for you using the structure in the table above by your employer or training provider.

Component 2: Professional Discussion based on Portfolio of Evidence

Overview

The professional discussion is based on your portfolio of evidence. It is to allow you to demonstrate how you have met the KSBs in order to carry out your occupational role as a Lead Engineering Maintenance Technician effectively and safely.

Step-by-Step Guide

The table below provides a step-by-step guide on how the professional discussion based on the portfolio of evidence will be carried out:

Who will assess me?	1 independent assessor, appointed by EUIAS.
How will the professional discussion be organised?	**Locations:** Your professional discussion will take place at your employer's premises or a suitable venue. **Time:** Your professional discussion will last 60 minutes. The independent assessor has the discretion to increase the time of the professional discussion by up to 6 minutes, to allow you to complete your last answer. **Your professional discussion will be:** • between you and the independent assessor • face to face or remote, as agreed • assessed and outcomes will be recorded by the assessor on official EUIAS professional discussion documents • recorded using the relevant technology such as Microsoft Teams or an audio recording device
What topics will the questions cover?	The independent assessor's questions will assess the following topics (themes): • Health and safety • Environmental and sustainability • People management • Engineering standards • Continuous improvement

	• Handovers • Information technology For further details refer to the knowledge, skills and behaviours (KSBs) listed in the grading criteria in Section 3 of the specification. **For amplification and guidance see Section 2 of the LEMT Specification.**
How many questions will I be asked?	The independent assessor: • will ask at least 7 standardised open questions to assess your level of knowledge, skills and behaviours. • may ask follow-up questions in order to seek clarification from you • you may refer to your portfolio of evidence for examples during the professional discussion
Provisional Grading	The independent assessor will award a provisional grade. You must pass **ALL** the pass criteria in order to achieve a pass.
Overall grading for this component	Fail, Pass, or Distinction.

Portfolio of Evidence Requirements

The requirements are as follows:

Portfolio Mapping Document

You must map your portfolio of evidence to the KSBs covered by the professional discussion. You must include a mapping document at the front of your portfolio that clearly references the location of the evidence in your portfolio.

For further guidance on how to map refer to:

- Section below 'How do I organise my portfolio of evidence and map it to the mapping document?'
- LEMT Specification Section 5: Guidance on portfolio of evidence and apprentice mapping
- Apprentice Guide: Appendix C for the portfolio mapping document

How do I organise my portfolio of evidence and map it to the mapping document?

Step-by-Step Guide

You must include a portfolio mapping document and place it at the front of your portfolio, see table above for guidance and where to locate the portfolio mapping document.

Your portfolio is not assessed. It serves two purposes:

- The independent assessor reviews your portfolio before the professional discussion to help focus and contextualise their questions
- You should carefully prepare, index and map your portfolio as this will further support you during your professional discussion. Your organised portfolio will allow you with ease to refer to examples and discuss the evidence with the independent assessor

What should I include in my portfolio?

Quality vs quantity

You should be supported in selecting and mapping evidence for your portfolio by your employer or training provider.

We would advise you to choose the best pieces of evidence and map them to each KSB which will be covered during your professional discussion. To be confident of meeting the KSB, you should aim to have two/three pieces of evidence mapped to each KSB.

Examples of acceptable evidence:

- that is mapped against the relevant KSBs that will be assessed by the professional discussion. A template has been produced which you can use to collect and map your evidence. A copy of the template is included, see Appendix C ‘Portfolio Mapping Document’
- quality pieces selected that must be related to the time you are on your apprenticeship programme and demonstrate current practice
- demonstrations of work carried out over a period of time and include evidence of work carried out within the last three months of the on-programme period

- a minimum of 2 and no more than 3 activities accrued out by you that demonstrates the higher order knowledge, skills and behaviours
- will typically contain 10 discrete quality pieces of evidence
- where practicable this should include and clearly labelled:
    - photographs
    - images
    - diagrams
    - video clips (maximum duration 5 minutes) and you must be in view and identifiable
    - job descriptions and witness evidence/testimony
- situations that have been difficult and challenging, and how these have been overcome e.g. equipment breakdown which has results in a change in working practice while still adhering to company procedures
- any employer contributions must focus on direct observation of evidence (e.g. review/witness statements) of competence rather than opinions
- workplace documentation and records
- workplace policies and procedures

The above is not a definitive list. You can include other relevant evidence sources.

You **must not** include in your portfolio any methods of self-assessment.

Evidence must be:

- produced by you (authentic)
- relevant to the standard (K, S or B) that it is mapped to
- produced during the time you were carrying out your on-programme training

What can I do to prepare for the professional discussion?

You should:

- be familiar with the structure of your portfolio
- know the KSBs covered by the professional discussion
- know where you have mapped your KSBs by referring to your portfolio mapping document
- ensure there is quality evidence to cover every KSB in the professional discussion
- practise mapping evidence and completing the evidence mapping grid

- know how you will be graded

The role of your employer or training provider

Employers or training providers are expected to support you in preparing your portfolio by:

- clarifying responsibility for supporting you in selecting and mapping evidence for your portfolio, including the role of employer coaches/mentors where applicable
- advising you on which pieces of evidence you should select to ensure that when it is looked at as a whole, your evidence provides coverage of all the required elements of the standard (KSBs) assessed in the professional discussion
- supporting the mapping of your evidence and production of your mapping document
- authenticating evidence you provide is valid
- signing off your portfolio
- submitting your portfolio to EUIAS as part of Gateway

Practice Component 2: Professional Discussion based on Portfolio of Evidence

You should have an opportunity to have a practice professional discussion which mirrors the real assessment. The practice professional discussion based on your portfolio of evidence would be set up using the structure in the table above by your employer or training provider.

Overall grading

Your apprenticeship will be graded distinction, merit, pass or fail. The final grade will be determined by collective performance in the two assessment components.

Grades from individual assessment components will be combined in the following way to determine your overall EPA grade as a whole.

Project: Report and presentation with questions	Professional discussion based by a portfolio of evidence	Overall Grading
Any grade	Fail	Fail
Fail	Any grade	Fail
Pass	Pass	Pass
Pass	Distinction	Merit
Distinction	Pass	Merit
Distinction	Distinction	Distinction

The scoring criteria that will be applied for each assessment criteria along with additional details can be found in Section 2 of the LEMT Specification.

Section 4: Resits and retakes

If you fail one or more EPA components, you can re-sit or a re-take the failed component at your employer's discretion. Your employer needs to agree that a re-sit or re-take is appropriate. A re-sit does not need further learning, but a re-take does. You should have a supportive action plan to prepare for your re-sit or re-take.

Your employer and EUIAS will agree the timescale for your re-sit or re-take. Failed re-sit is typically taken within 2 months of the EPA outcome notification. The timescale for a re-take is dependent on how much re-training you will require and is typically taken within 4 months of the EPA outcome notification. Failed EPA components must be re-sat or re-taken within the 6 month end-point assessment period, otherwise the EPA will need to be re-sat or re-taken in full.

If you re-sit or re-take either component, the maximum overall grade that you can achieve is a Pass.

If you are unsuccessful, your employer will decide if you should re-apply for the EPA once additional training has taken place.

The EUIAS resit and re-take policy can be found at:
https://www.euias.co.uk/end-point-assessment/policies-and-fees/

Section 5: Appendices

Appendix A: Glossary

Appendix B: Project Report Mapping Document

Appendix C: Portfolio Mapping Document

Appendix A: Glossary

Amplification – provides more detail on how individual knowledge, skills or behaviours statements should be interpreted. Where the KSB statements, themselves are deemed self-explanatory, no amplification is provided. Assessment may include questions on anything identified in the amplification

Behaviours –mindsets, attitudes or approaches needed for competence. Whilst these can be innate or instinctive, they can also be learnt. Behaviours tend to be very transferable. They may be more similar across occupations than knowledge and skills. For example, team worker, adaptable and professional

Elements – are the knowledge, skills and behaviours and what is needed to competently undertake the duties required for an occupational standard

Guidance – is only provided where it is required to support interpretation of the KSB statements

Gateway – the stage of the apprenticeship where the apprentice, employer and trainer determine whether the apprentice is ready to undertake the End-Point Assessment

Independent Assessor – Will holistically assess the knowledge, skills and behaviours (KSBs) that you have been taught throughout the apprenticeship. Their role as an Independent Assessor would involve assessing 2 components (practical skills observation and professional discussion based on your portfolio of evidence)

Knowledge – the information, technical detail, and 'know-how' that someone needs to have and understand to successfully carry out the duties. Some knowledge will be occupation-specific, whereas some may be more generic

Options / Pathways – a specialist route within an occupational standard that builds on the occupational competence for a new entrant to the occupation

Project – The project report will involve the apprentice completing a significant and defined piece of work that has a real business application and benefit. The project report will start once the apprentice has gone through gateway

Presentation - A presentation involves an apprentice presenting to an independent assessor on a particular topic. It will be followed by a questioning session from the independent assessor

Skills – the practical application of knowledge needed to successfully undertake the duties. They are learnt through on and/or off-the-job training or experience

Standard – An occupational standard is a description of an occupation. It contains occupational profile, and describes KSBs needed for someone to be competent in the occupation's duties. The occupational standards are developed by employers for occupations that meet the Institute for Apprenticeships & Technical Education current criteria. For further details refer to: https://www.instituteforapprenticeships.org/apprenticeship-standards/engineering-operative-v1-2

Topic - is a collection of elements grouped into a theme e.g., Health and Safety

Appendix B: Section 1 Project: Report Mapping Document

Project Report Mapping Document

This document must be placed at the front of your project report and submitted to EUIAS with the project report.

Introduction

Use this document to map the project report to the KSBs which will be holistically assessed during section 2 presentation with questions.

Apprentice's next steps

1. Complete all the details on the first page and include employer details of where relevant competencies from their experience at work was gained.
2. Map evidence to the criteria in the following pages using a referencing system indicating where the evidence for the criteria is located in the project report e.g., paragraph number, diagram including page number. This will allow the independent assessor to locate the section or specific piece of evidence being discussed and/or referred to during the presentation with questions.
3. Place the project report mapping document at the front of the project report.

The apprentice's training provider must make arrangements for EUIAS to have access to the apprentice's project report including the project report mapping document **to EUIAS by the end of week 13 of the End-point Assessment (EPA) period.** For apprentices using e-project report such as ONEFILE, SMARTASSESSOR, the reference used must simply be the file or folder name you used when uploading the evidence to such systems.

Project Report Mapping Document

1.1 Mapping Sign off on Project Report Completion:

Apprentice Name (Print)	Apprentice Signature	Training Provider (Company)	Training Provider Signatory	Date of Sign Off

Health and Safety Core Knowledge, Skills and Behaviour:

Ref. (KSB)	Apprenticeship Standard Criteria	Project Report EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
K2	Risk identification, risk assessments, mitigations and safe systems of work.			
S4	Identify and document risks and hazards in the workplace. Advise on and apply control measures.			
B2	Prioritise and promote health and safety.			

Procedures and Work Instructions Core Knowledge and Skill:

Ref. (KSB)	Apprenticeship Standard Criteria	Project Report EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
K10	Manufacturers' instructions: what they are and how to use them. Warranties: what they are and impact on engineering maintenance work.			
S3	Follow manufacturers' instructions and standard maintenance procedures			

Task Management Core Knowledge and Skills:

Ref. (KSB)	Apprenticeship Standard Criteria	Project Report EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
K5	Engineering materials: characteristics, properties and impact on use.			
K7	Maintenance and engineering strategies, practices and techniques: planned, preventative, predictive and reactive.			
K15	Planning, prioritising, work scheduling, workflow and time management techniques. Work management systems. Work categorisation systems.			
K19	Resources: Human, physical, space, documentation, tooling, specialist equipment, spares and materials: Stock and services considerations			
K22	Project management techniques: Strengths, Weaknesses, Opportunities, Threats (SWOT), stakeholder matrices, risk mapping and summary risk profiles.			
S6	Plan and schedule tasks, projects or resources in the workplace.			
S7	Manage tasks, projects or resources in the workplace.			
S8	Evaluate tasks, projects or resources in the workplace			

Problem Solving Core Knowledge and Skill:

Ref. (KSB)	Apprenticeship Standard Criteria	Project Report EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
K4	Engineering mathematical and scientific principles: methods, techniques, graphical expressions, symbols, formulae and calculations.			
K6	Problem solving techniques: diagnostics, root cause analysis, 6 thinking hats, DMAIC (Define, Measure, Analyse, Improve, Control), PDCA (Plan Do Check Act). Fault finding techniques: root cause analysis, 5 Whys', fishbone, half-split.			
S17	Identify problems and apply methods to identify causes and solutions. Escalate issues or concerns.			
S19	Interpret and use information from engineering data sources to apply changes.			

Technical Leadership Core Knowledge and Skill:

Ref. (KSB)	Apprenticeship Standard Criteria	Project Report EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
K8	Standard operating procedures and work instructions: rationale, review and updates.			
K9	Engineering, manufacturing and maintenance technical information, related documentation, such as job records, service reports, checklists and condemn notices; representations, drawings, graphical information, visuals and symbols.			
S14	Provide technical leadership for maintenance practices and techniques.			
S15	Provide technical leadership for repair practices and techniques.			
S16	Provide technical leadership for fault finding techniques and practices.			

Communication Core Knowledge and Skill:

Ref. (KSB)	Apprenticeship Standard Criteria	Project Report EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
K17	Communication techniques: written. Writing using plain English principles. Report writing.			
S10	Communicate in writing.			

Appendix C: Portfolio Mapping Document

Introduction

Throughout the on-programme part of the apprenticeship, you will need to compile a portfolio of evidence to support the requirements of the professional discussion. The evidence within the portfolio will need to be mapped by you to the KSB requirements using the mapping document below.

The independent assessor will use the mapping document to review the evidence in your portfolio in preparation for the professional discussion. The independent assessor will not assess your portfolio.

The portfolio mapping document below consists of the core requirements.

Your next steps

1. Complete all the details on the first page and include employer details of where relevant competencies from your experience at work was gained

2 Ensure each piece of evidence is signed off by your tutor/supervisor/mentor and lead provider (employer or training provider). You can use a number of different types of evidence to demonstrate your competence as described in Section 5 of the Specification – 'What to include in the portfolio?'. For further guidance, you must seek advice from your tutor/supervisor/mentor and lead provider

3 Map evidence to the criteria in the following pages using a referencing system indicating where the evidence for the criteria is located in your portfolio e.g., work based evidence Job 1 (J1) page 5 paragraph 2. This will allow the independent assessor to locate the section or specific piece of evidence being discussed with you during the professional discussion

4 Place the portfolio mapping document at the front of the portfolio of evidence

5 Your lead provider must make arrangements for EUIAS to have access to your portfolio including the portfolio mapping document at Gateway

Portfolio Mapping Document

1.1 Mapping Sign off on Portfolio Completion:

Place this portfolio mapping document at the front of your portfolio of evidence.

Apprentice Full Name (Print)	Apprentice Signature	Training Provider (Company)	Training Provider Signatory	Date of Sign Off

Health and Safety Core Knowledge and Skill:

Ref. (KSB)	Apprenticeship Standard Criteria	Project Report EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
K1	Awareness of health and safety regulations, relevance to the occupation and the technician's responsibilities. Health and safety regulations.			
S1	Comply with health and safety regulations and procedures. Apply safe systems of work.			

Environmental and Sustainability Core Knowledge, Skill and Behaviour:

Ref. (KSB)	Apprenticeship Standard Criteria	Project Report EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
K3	Awareness of environment and sustainability regulations, relevance to the occupation and the technician's responsibilities. Environment and sustainability. Environmental Protection Act - responsibilities. Types of pollution and control measures: noise, smells, spills, and waste. Sustainability. Resource Management. Environmental permits. Waste management. Waste Electrical and Electronic Equipment Directive (WEEE). Hazardous waste regulations. Re-cyclable materials and waste disposal procedures. Energy consumption and usage profiling. Data logging to optimise energy performance. The Climate Change Agreements. Carbon Reduction Commitment (CRC).			
S2	Comply with environmental and sustainability regulations and procedures when using resources. Segregate resources for re-use, recycling and disposal applying sustainability principles.			
B1	Prioritise and promote the environment and sustainability.			

People Management Core Knowledge, Skills and Behaviours:

Ref. (KSB)	Apprenticeship Standard Criteria	Project Report EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
K12	The function of an engineering maintenance department. Limits of autonomy and reporting channels. Different teams and functions involved in operation and interdependencies.			
K13	Leadership and management techniques: customer relationship management, negotiating, influencing, networking, commercial awareness, conflict management and assertiveness.			
K14	Workplace training and development and competence assurance techniques in the workplace. How to pass on knowledge to colleagues and provide guidance to customers or stakeholders.			
K16	Verbal communication techniques: Matching style to audience. Barriers in communication and how to overcome them. Engineering terminology.			
K25	Equality, diversity and inclusion in the workplace.			
S9	Communicate with colleagues and stakeholders verbally.			
S11	Negotiate with colleagues or stakeholders. For example, to access equipment or arrange system outage			
S12	Identify potential conflicts and apply resolution strategies.			
S13	Identify training needs of team members in the workplace.			
B3	Apply a professional approach.			

Ref. (KSB)	Apprenticeship Standard Criteria	Project Report EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
B5	Committed to professional development of self and others.			
B7	Act ethically.			
B8	Collaborate within teams, across disciplines and external stakeholders.			

Engineering Standards Core Knowledge and Skill:

Ref. (KSB)	Apprenticeship Standard Criteria	Project Report EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
K11	Awareness of engineering international, national and regulatory standards, relevance to the occupation and technician's responsibilities. British Standards (BS). International Organisation for Standardisation standards (ISO). European Norm (EN).			
K18	The engineering maintenance sector. Regulators. Types of employers. Clients. Supply chain. Stakeholders. Audits.			
K20	Awareness of Quality Management Systems (QMS) and the principles of Quality Control and Assurance, principles and practice in a maintenance and engineering environment. Relevance to the occupation and the technician's responsibilities.			
S18	Comply with engineering standards and regulations. For example, ISO9001.			

Continuous Improvement Core Knowledge and Skill:

Ref. (KSB)	Apprenticeship Standard Criteria	Project Report EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
K21	Continuous improvement techniques: lean, 6-sigma, KAIZEN, 5 S (Sort, set, shine, standardise and sustain).			
S20	Lead on continuous improvement projects. Apply continuous improvement techniques. Devise suggestions for improvement.			

Handovers Core Knowledge and Skill:

Ref. (KSB)	Apprenticeship Standard Criteria	Project Report EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
K24	Business operation considerations: efficiency, customer satisfaction, competitiveness, minimising risks to operation, finance, business ethics and licenses.			
S21	Manage technical handover of completed repair or maintenance activity.			
B6	Take responsibility for work.			

Information Technology Core Knowledge, Skills and Behaviour:

Ref. (KSB)	Apprenticeship Standard Criteria	Project Report EVIDENCE REFERENCE (Apprentice Input)		
		1	2	3
K23	Information technology: Management Information Systems (MIS), spreadsheets, presentation, word processing, email, virtual communication and learning platforms. General Data Protection Regulation (GDPR). Documentation and data collection: principles, methods and requirements - electronic and paper. Analytical data, job records, timekeeping, service reports, checklists and condemn notices. Technological development and innovation in the engineering sector. Industry 4.0. IT networking and digital twinning.			
S5	Record or enter information - paper based or electronic. For example, job sheets, risk assessments, equipment service records, test results, handover documents and manufacturers' documentation, asset management records, work sheets, checklists, waste environmental records and any legal reporting requirements.			
S22	Use information technology. For example, for document creation, communication, and information management in line with breakdown, repair and maintenance activities. Comply with GDPR.			
B4	Promote adoption of emerging and advanced engineering and maintenance technologies.			