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# EUIAS Level 3 End-point Assessment Apprentice Guide for

## Utilities Engineering Technician (Electrical; Mechanical; Instrumentation Control and Automation)

QAN 603/7317/9

# EUIAS Level 3 End-point Assessment Apprentice Guide for

## Utilities Engineering Technician

**QAN 603/7317/9**

## Updates to this Guide

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

| Version | Date first published | Section updated | Page(s) |
|---|---|---|---|
| V2.0 | July 2023 | Rebranded and revised content using new template | All |
| V1.0 | September 2021 | First published | All |

## At A Glance Component 1: Observation with Questions

| | |
|---|---|
| Date(s): | |
| Time: | |
| Location: | |
| Examination Conditions: | With an EUIAS assessor in your place of work |
| Additional Requirements: | |
| Assessed and marked by: | Independent assessor/EUIAS |

## At A Glance Component 2: Interview based on a portfolio of evidence

| | |
|---|---|
| Date(s): | |
| Time: | |
| Location: | |
| Examination Conditions: | With an EUIAS assessor in your place of work or training environment |
| Additional Requirements: | |
| Assessed and marked by: | Independent assessor/EUIAS |

## At A Glance Component 3: Multiple-choice Test

| | |
|---|---|
| Date(s): | |
| Time: | |
| Location: | |
| Examination Conditions: | Controlled by an invigilator |
| Additional Requirements: | |
| Assessed and marked by: | 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

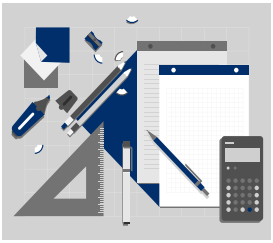
## How to Use This Guide

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 Utilities Engineering Technician (UET) Specification and/or Supporting Documents 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 Utilities Engineering Technician standard, which was written by employers. It contains the Utilities Engineering Technician's 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/utilities-engineering-technician-v1-1

## 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:
ST0159_Utilities_Engineering_Technician_L3_AP_EA_.Grading_Review_31.12.19 (instituteforapprenticeships.org)

## What is an end-point assessment (EPA)?

The end-point assessment is the assessments you take at the end of your apprenticeship. You will typically spend 48 months on-programme working towards your standard with a minimum of 20% off-the-job training. 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 will typically last 3 months. The end-point assessments consist of 3 components:

- Observation with Questions
- Interview based on your portfolio of evidence
- Multiple-choice Test

Each component has a provisional grade and each grade is carried forward to award a final grade. You must pass all 3 components to pass your apprenticeship.

The final grade can be a Fail, Pass 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 at level 2
- compiled a portfolio of evidence, which will support you in your interview

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

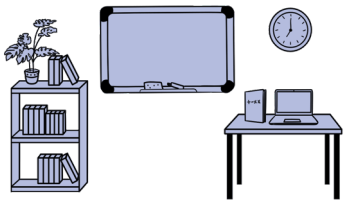
## What is the EPA Specification?


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:
UET-EPA-Specification-V2.0.pdf (euias.co.uk)

# Section 2: Apprentice EPA Journey



## Let us Begin Your EPA Journey.

### Find a quiet place and read on….

Utilities Engineering Technician is a core and options apprenticeship standard. You must be trained and assessed against the core and one of the following specialisms:

- Electrical
- Mechanical
- Instrumentation Control and Automation (ICA)

Your EPA journey consists of 3 elements:

- A training programme with on the job, off the job elements, typically 48 months
- Gateway meeting window
- End-point Assessment (EPA) typically 3 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. **Observation with questions**
2. **Interview based on your portfolio of evidence**
3. **Multiple-choice test**

It is important for you to keep a record of when your 3 components are scheduled. We suggest you use the ‘At a Glance’ tables on page 5.

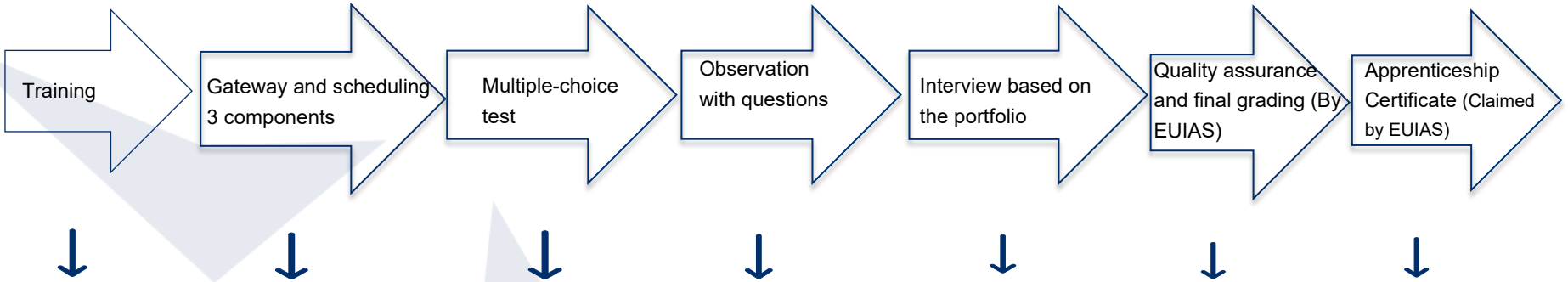
You must pass all 3 components to achieve this qualification. For further guidance refer to Section 3 End-point Assessment Components.

## 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, 48 months | You have: Attended a Gateway meeting with your employer/provider.<br><br>Achieved English and maths at level 2.<br><br>Compiled a portfolio of evidence, which your interview will be based on. | 1 hour.<br><br>Multiple-choice 40 questions.<br><br>Under exam conditions supervised by an invigilator. Face to face.<br><br>Closed book. | 4 hours.<br><br>Under examination conditions. Face to face in workplace. Normal work duties, in your workplace Independent assessor<br><br>For further observation details see | 1 hour.<br><br>Under examination conditions. Face to face or remote as agreed. Recorded using relevant technology. Independent assessor.<br><br>For further interview details | Awarded Final Grading: Distinction, Pass or Fail. | ESFA will send your Certificate to your training provider or employer.<br><br>Contact your training provider or employer if you do not receive your certificate. |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | below.* | 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 3 components that you must pass to be awarded a certificate.

## Component 1: Observation with Questions

### Overview

An observation with questions involves an independent assessor, appointed by EUIAS observing and questioning you undertaking work as part of your normal duties, in your workplace. The task(s) must be capable of being completed by a competent Utilities Engineering Technician.

### Step-by-Step Guide

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

| | |
|---|---|
| Structure of your practical assessment | The total assessment time is 4 hours for completing work as part of your normal duties, in your workplace.<br>• The observation with questions may not be split, other than to allow comfort breaks as necessary or to allow you to move from one location to another as required.<br>• Where breaks occur, the clock will be paused. The assessment time is not reduced. |
| Where will the assessment take place? | • Your employer's premises<br>• The questioning must take place in a quiet room |
| What knowledge, skills and behaviours (KSBs) do I have to demonstrate during the | **Knowledge, Skills and Behaviours:**<br>**K2** Maintenance practices, processes and procedures covering a range of waste and water systems, plant and equipment<br>**K5** Planned, reactive, and predictive maintenance processes, practices and procedures |

| | |
|---|---|
| Observation with Questions? | **S4** Carry out maintenance activities on a range of waste and water systems, plant and equipment<br><br>**S6** Carry out and follow planned, reactive, and predictive plant and equipment maintenance procedures<br><br>**S2** Follow and comply with industry health and safety and environmental working practices and regulations<br><br>**S10** Adhere to safe working practices and procedures and carry out risk assessments<br><br>**S7i** Communicate with and provide information and guidance to colleagues in line with personal role and responsibilities<br><br>**S8** Handover and confirm completion of engineering activities<br><br>**S9ii** Work to technical specifications and supporting documentation<br><br>**S11** Carry out safe isolation of equipment, using permit and lock-off systems as required<br><br>**S13i** Maintain equipment and components as required<br><br>**B1** Display a self-disciplined, self-motivated approach whilst recognising personal limitations and seeking advice from fact holders and specialists when required<br><br>**B2** Accept responsibility for work of self or others<br><br>**B4i** Work effectively and safely when undertaking tasks to approved standards and safe working practices when working alone<br><br>**B5** Undertake and complete work in a way that contributes to sustainable development<br><br>**B6** Be risk aware and minimise risks to life, property and the environment when undertaking work activities<br><br>**B7i** Be quality focussed |

| | |
|---|---|
| | **B8** Identify, organise and use resources effectively to complete tasks, with consideration for cost, quality, safety, security and environmental impact<br><br>**Electrical specialism**<br><br>**E4** Use electrical theories and principles to use test equipment for voltage, current and earth resistance testing to maintain the integrity of the electrical system<br><br>**E9** Carry out electrical procedures on industrial low voltage systems (up to 1000V AC) operating switchgear, fuses, motor control centres, transformers, manual & automatically controlled drives and motors<br><br>**Mechanical specialism**<br><br>**M2i** Inspect and monitor mechanical systems, and inspect, monitor, maintain, dismantle and repair mechanical equipment and components<br><br>**M8i** Test, and service and repair mechanical equipment as part of planned preventative maintenance and/or reactive maintenance programmes<br><br>**ICA specialism**<br><br>**I2i** Maintain instrumentation and control equipment and circuits<br><br>**I4i** Use Instrumentation and control systems knowledge and skills to maintain instruments, controllers, probes, attachments, cabling, meters and display units.<br><br>**I7** Test, calibrate and validate fixed and portable analogue and digital instrumentation using approved procedures and standards.<br><br>**I8i** Maintain and calibrate field instrumentation, communication devices and associated equipment used in system and process control, such as Programmable Logic Controllers (PLC) and Supervisory Control & Data Acquisition (SCADA) systems<br><br>**I11** Carry out isolation procedures to ensure process or system stability and personnel safety when carrying out operations |

| | |
|---|---|
| | For amplification and guidance refer to the UET Specification:<br><br>UET-EPA-Specification-V2.0.pdf (euias.co.uk) |
| What tasks will I have to cover? | The task(s) must allow you to undertake the activities required for an Observation with questions. For further details refer to 'Knowledge, Skills and Behaviours (KSBs) Coverage' in the specification, refer to link above. |
| What resources can I use? | Equipment and resources needed for the observation will be:<br>• provided by your employer<br>• the tools, equipment and PPE required for the job<br>• in good and safe working condition.<br><br>Relevant work instructions/manuals must be available in hard copy or electronically. |
| How many questions will I be asked? | The independent assessor:<br>• will ask questions in relation to underpinning knowledge or where an opportunity to observe you completing an activity has not naturally occurred<br>• may ask questions to follow up in order to seek clarification from you |
| Who will assess me? | An independent assessor, appointed by EUIAS. |
| 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. |

## Practice Component 1: Observation with Questions

You should have an opportunity to have a practice practical assessment which mirrors the real assessment. A practice practical would be set up for you using the structure in the table above by your employer or training provider.

## Component 2: Interview based on Portfolio of Evidence

### Overview

The interview 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 Utilities Engineering Technician effectively and safely. The interview allows for testing of responses where there are a range of potential answers that cannot be tested through the multiple-choice test.

### Step-by-Step Guide

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

| | |
|---|---|
| Who will assess me? | 1 independent assessor, appointed by EUIAS will assess you under examination conditions. |
| How will the interview be organised? | **Locations:** Your interview will take place at your employer's premises or a suitable venue.<br>**Time:** Your interview will be 1 hour – However, the independent assessor has the option to increase the time of your interview by up to 10%, to allow you to complete your last answer.<br>**Your interview will be:**<br>• a discussion between you and the independent assessor<br>• face to face or remote, as agreed<br>• assessed and outcomes will be recorded by the assessor on official EUIAS interview documents<br>• recorded using the relevant technology such as Microsoft Teams or an audio recording device.<br>You will have access to your portfolio of evidence throughout the interview. |
| What topics will I have to cover? | The questions you will be asked will cover the following topics, a minimum of one question per topic will be asked:<br>• make components<br>• work allocation/supervision<br>• professionalism<br>• diversity and equality |

| | |
|---|---|
| | • continued professional development<br>• ethical manner<br>• specialist duties<br>• specialist installation and commission of clean/wastewater equipment; decommission<br>• specialist fault finding and repairs.<br><br>**For amplification and guidance refer to the UET Specification:**<br><br>https://www.euias.co.uk/wp-content/uploads/2023/01/UET-EPA-Specification-V4.0.pdf |
| How many questions will I be asked? | • A minimum of 9 questions (based on the above topics)<br>• Set questions which maybe contextualised to the contents of your portfolio<br>• Follow-up questions in order to seek clarification |
| 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 interview.

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?'
- UET Specification Section 5: Guidance on portfolio of evidence and apprentice mapping
- Apprentice Guide Appendix B 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 interview to help focus and contextualise their questions
- You should carefully prepare, index and map your portfolio as this will further support you during your interview. 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 interview. 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 interview
- workplace documentation/records, for example job task sheets/job card/times sheets, equipment maintenance /service records related to the apprentice
- witness statements signed and dated by coaches/trainers
- any employer contributions should focus only on direct observation of evidence (for example witness statements) rather than opinions
- annotated photographs/diagrams
- video clips (maximum total duration 10-minutes); the apprentices must be in a view and identifiable

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 interview?

You should:

- be familiar with the structure of your portfolio
- know the KSBs covered by the interview
- 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 interview
- 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 interview
- 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: Interview based on Portfolio of Evidence

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

## Component 3: Multiple-choice Test

### Overview

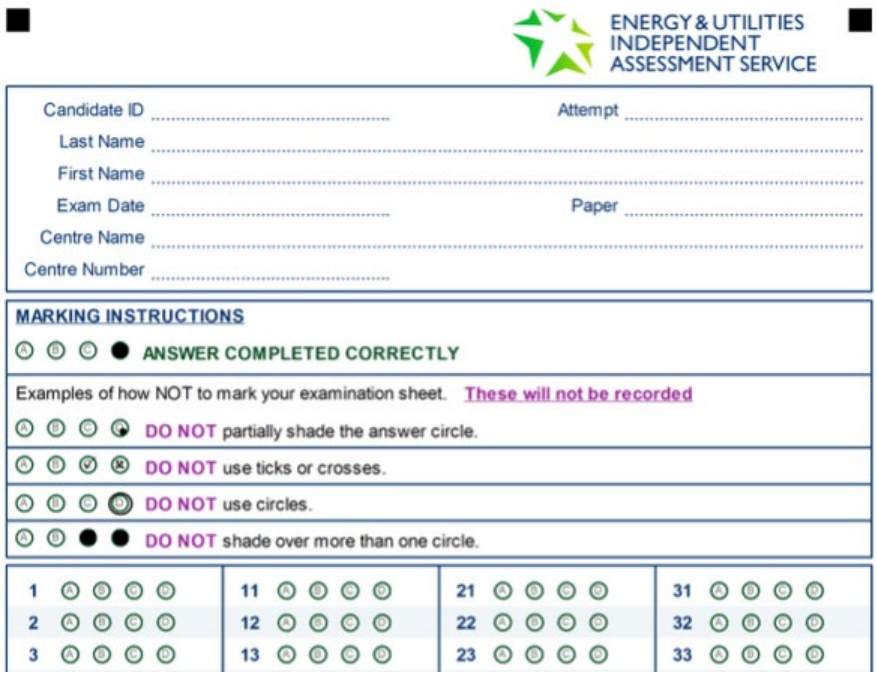
The multiple-choice test is paper based. You will have 60 minutes to complete the test. The test consists of 40 questions.

The multiple-choice questions will have four possible answers of which one will be correct.

### Step-by-Step Guide

The table below provides a step-by-step guide on how the multiple-choice test will be carried out:

<table>
<tr><td>Who will start and finish your multiple-choice test?</td><td>You will sit your multiple-choice test in the presence of an invigilator.</td></tr>
<tr><td>How will the question appear?</td><td>Here is an example of how the question will appear:<br><br>
<table>
<tr><th colspan="2">Question 1</th></tr>
<tr><td colspan="2">In a workplace, who is responsible for maintaining health and safety?</td></tr>
<tr><th colspan="2">Possible answers</th></tr>
<tr><td>a)</td><td>Employers</td></tr>
<tr><td>b)</td><td>Safety managers</td></tr>
<tr><td>c)</td><td>Most senior person on-site</td></tr>
<tr><td>d)</td><td>Everyone</td></tr>
</table>
<br>You must select one answer that you think is correct. You will be provided with an answer sheet where you will be expected to shade in the answer you have selected. Here is an example:</td></tr>
</table>

| | |
|---|---|
| |  <br>**Always have a go even if you are not sure that it is the correct answer.** |
| Can I take any resources into the exam room? | The test is closed which means that you cannot refer to reference books or any other materials. You will be provided with stationery on the day. |
| Can I have access to the internet? | No access to the internet is allowed and this means you must not take your SMART watch into the exam room. |
| How will the multiple-choice test be organised for me? | **Locations:** Your multiple-choice test will take place at your employer's or training provider's premises or a suitable venue.<br>• You will take the test in a quiet space and in the presence of an invigilator<br>• Your test will be scheduled by your employer or training provider with the EUIAS<br>• If you fail the multiple-choice test, you can re-sit or re-take the failed test at your employer's discretion. There are no limits to the number of re-sits or re-takes you can take but it is important to revise and ensure that you are confident with the knowledge you are being tested on |
| What criteria will I have to learn? | The multiple-choice test questions are knowledge based and sample the 3 core knowledge criteria. Below is a list of the |

**AND**

How many questions will be asked on each criteria?

knowledge criteria, assessed in the multiple-choice test along with the range of questions that will be allocated to a multiple-choice test paper:

| No. of Questions | Knowledge |
|---|---|
| **19-20** | **K1** Relevant industry health and safety standards and regulations, and environmental and regulatory requirements |
| **11-13** | **K3** Relevant level of theory and principles that underpin the design and function of electro-mechanical and instrumentation systems and equipment |
| **7-9** | **S9i** Read, understand and interpret computer data and displays |

**Remember** the questions have been written to reflect the Utilities Engineering Technician role as a whole and are not focussed on specific plant, machinery, or employer-specific processes. For amplification and guidance refer to Section 3 of the UET Specification.

What should I do to prepare for the multiple-choice test?

**You should be prepared to**:

- revise the criteria listed above (K1, K3 and S9i)
- ask your employer or training provider for additional questions that they have prepared to support you
- attend the multiple-choice test which will last 1 hour

While on-programme, the employer or training provider must ensure you are:

- familiar with all areas assessed by the multiple-choice test as listed above
- supported in completing a practice test and provide you with constructive feedback to enable you to identify areas you need to carry out further revision in

### Practice Component 3: Multiple-Choice test

You should have an opportunity to have a practice multiple-choice test which mirrors the real assessment. The practice multiple-choice test would be set up using the structure in the table above by your employer or training provider. The feedback provided will assist you with preparing for the actual multiple-choice test.

## Overall grading

All assessment components contribute equally to your overall EPA grade.

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

| Observation with questions | Interview based on a portfolio of evidence | Multiple-choice test | Overall grading |
|---|---|---|---|
| Fail | Any grade | Any grade | **Fail** |
| Any grade | Fail | Any grade | **Fail** |
| Any grade | Any grade | Fail | **Fail** |
| Pass | Pass | Pass | **Pass** |
| Distinction | Pass | Pass | **Pass** |
| Pass | Distinction | Pass | **Pass** |
| Distinction | Distinction | Pass | **Distinction** |

Any grade = fail, pass or distinction

## 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. A re-sit is typically taken within two months of the EPA outcome notification. The timescale for a re-take is dependent on how much re-training is required. It is typically taken within four months of the EPA outcome notification, otherwise the entire EPA will need to be re-sat or re-taken in full, unless in the opinion of the EUIAS exceptional circumstances apply outside the control of you or your employer.

Where any assessment method has to be re-sat or re-taken, you will be awarded a maximum EPA grade of pass, unless EUIAS determines there are exceptional circumstances which required a re-sit or re-take.

All assessment methods must be taken within a six month period, otherwise the entire EPA will need to be re-sat/re-taken.

Re-sits and re-takes will not be offered to you if you wish to move from pass to a higher grade.

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: 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 learnt throughout the apprenticeship. Their role as an Independent Assessor would involve assessing components 1 (Observation with Questions) and 2 (Interview 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

**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/utilities-engineering-technician-v1-1

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

# Appendix B: 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 interview. 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 interview. The independent assessor will not assess your portfolio.

The portfolio mapping document below consists of the core requirements.

## Your next steps

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

- 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 6 of the Specification – 'What to include in the portfolio?'. For further guidance, you must seek advice from your tutor/supervisor/mentor and lead provider

- 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 interview

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

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

## Portfolio Mapping Document

**Mapping Sign off on Portfolio Completion:**

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

You will need to have

- The mapping sheets for Groups 1- which all apprentices must do
- The mapping sheets for Groups 9-11, which are specific for the pathway you are specialising in
    - Electrical
    - Mechanical
    - Instrumentation Control and Automation

## Interview Grading with Portfolio Mapping

**Mapping Sign off on Portfolio Completion:**

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

| Pathway | |
|---|---|

### GROUP 1: (Core) Health & safety

| **Pass Criteria**<br>Describes how they have monitored and maintained safe working conditions and practices when working as part of a team or when supervised.<br>Explains the implications of non-compliance with relevant health and safety standards, regulations and practice | | | | |
|---|---|---|---|---|
| **Ref.** | **Apprenticeship Standard Criteria** | **PORTFOLIO EVIDENCE REFERENCE (Apprentice Input)** | | |
| | | **1** | **2** | **3** |
| **B4ii** | Accept, allocate and supervise technical and other tasks | | | |

### GROUP 2: (Core) Make components

| **Pass Criteria**<br>Describes how they have used workshop machinery and equipment to create, repair and modify component and apparatus appropriately | | | | |
|---|---|---|---|---|
| **Ref.** | **Apprenticeship Standard Criteria** | **PORTFOLIO EVIDENCE REFERENCE (Apprentice Input)** | | |
| | | **1** | **2** | **3** |
| **S5** | Use workshop machinery and equipment to create, repair and modify component and apparatus | | | |

## GROUP 3: (Core) Communicate

| **Pass Criteria**<br>Describes how they communicate with contractors and suppliers and provide information and guidance in line with personal role and responsibilities | | | | |
|---|---|---|---|---|
| **Ref.** | **Apprenticeship Standard Criteria** | **PORTFOLIO EVIDENCE REFERENCE (Apprentice Input)** | | |
| | | **1** | **2** | **3** |
| **S7ii** | Communicate with and provide information and guidance to contractors, suppliers in line with personal role and responsibilities | | | |

## GROUP 4: (Core) Work allocation/ supervision

| **Pass Criteria**<br>Describes how they have managed tasks, including delegation and supervision<br>Describes how their contributions to a team project made a difference, whilst working to approved standards and safe working practices | | | | |
|---|---|---|---|---|
| **Ref.** | **Apprenticeship Standard Criteria** | **PORTFOLIO EVIDENCE REFERENCE (Apprentice Input)** | | |
| | | **1** | **2** | **3** |
| **B4ii** | Accept, allocate and supervise technical and other tasks | | | |
| **B9** | Work effectively and safely when undertaking tasks to approved standards and safe working practices as part of a team or with appropriate supervision | | | |

## GROUP 5: (Core) Professionalism

| **Pass Criteria**<br>Describes how they have delivered a polite, courteous and professional service to customers and members of the public | | | | |
|---|---|---|---|---|
| **Ref.** | **Apprenticeship Standard Criteria** | **PORTFOLIO EVIDENCE REFERENCE (Apprentice Input)** | | |
| | | **1** | **2** | **3** |
| **B3** | Deliver a polite, courteous professional service to customers and members of the public | | | |
| **B7ii** | Be professional in work and in personal standards | | | |

## GROUP 6: (Core) Diversity and equality

| **Pass Criteria**<br>Describes how they have taken account of the needs and concerns of others in relation to diversity and equality | | | | |
|---|---|---|---|---|
| **Ref.** | **Apprenticeship Standard Criteria** | **PORTFOLIO EVIDENCE REFERENCE (Apprentice Input)** | | |
| | | **1** | **2** | **3** |
| **B10** | Be aware of the needs and concerns of others, especially where related to diversity and equality | | | |

## GROUP 7: (Core) Continued professional development

| **Pass Criteria**<br>Describes the CPD activities they have completed and explains how it enhanced their competence | | | | |
|---|---|---|---|---|
| **Ref.** | **Apprenticeship Standard Criteria** | **PORTFOLIO EVIDENCE REFERENCE (Apprentice Input)** | | |
| | | **1** | **2** | **3** |
| **B11** | Carry out and record CPD necessary to maintain and enhance competence | | | |

## GROUP 8: (Core) Ethical manner

| **Pass Criteria**<br>Describes how they exercise responsibilities in an ethical manner | | | | |
|---|---|---|---|---|
| **Ref.** | **Apprenticeship Standard Criteria** | **PORTFOLIO EVIDENCE REFERENCE (Apprentice Input)** | | |
| | | **1** | **2** | **3** |
| **B12** | Exercise responsibilities in an ethical manner | | | |

## GROUP 9: (Electrical) Duties

| **Pass Criteria**<br>Describes how they have applied technical knowledge in their electrical duties: inspecting, condition monitoring and reporting; and testing servicing/maintaining and repairing electrical equipment<br>Describes the different contexts/settings in which they have installed, maintained and tested electrical equipment<br>If appropriate to the apprentice's workplace, describes their role in driving vehicles equipped with tools and materials to job sites<br>If appropriate to the apprentice's workplace, describes how they provide 24 hour cover to remedy fault situations requiring diagnostic testing procedures | | | | |
|---|---|---|---|---|
| **Ref.** | **Apprenticeship Standard Criteria** | **PORTFOLIO EVIDENCE REFERENCE (Apprentice Input)** | | |
| | | **1** | **2** | **3** |
| **S1** | Apply technical knowledge to carry out inspections, condition monitoring and reporting. | | | |
| **S12** | Drive vehicles equipped with tools and materials to job sites. | | | |
| **S14** | As required, undertake standby duties to provide 24-hour cover to remedy fault situations requiring diagnostic testing procedures. | | | |
| **E1** | Inspect and monitor electrical systems, and inspect, monitor, maintain and repair electrical equipment. | | | |
| **E3** | Access a range of sites to install, maintain, test, repair and dismantle electrical equipment. | | | |
| **E7** | Test, service and repair electrical equipment as part of planned preventative maintenance and/or reactive maintenance programmes. | | | |

## GROUP 10: (Electrical) Electrical installation and commission of clean/wastewater equipment

| | | | | |
|---|---|---|---|---|
| **Pass Criteria**<br>Explains how they have installed or replaced and commissioned equipment and components (electrical cables, switchgear, circuit breakers, motors, transformers and other associated equipment), including interpretation of electrical drawings and testing<br>**Distinction Criteria**<br>Identifies and explains the potential issues that could arise during the work and how they mitigate against them | | | | |
| **Ref.** | **Apprenticeship Standard Criteria** | **PORTFOLIO EVIDENCE REFERENCE (Apprentice Input)** | | |
| | | **1** | **2** | **3** |
| **S13ii** | Install replace and commission equipment and components as required | | | |
| **E2** | | | | |
| **E6** | | | | |
| **E8** | | | | |

## GROUP 11: (Electrical) Electrical fault finding and repair

**Pass Criteria**

Describes how they have located, diagnosed and rectified faults on Programmable Logic Controllers
(PLC) and Supervisory Control & Data Acquisition
(SCADA) systems or similar

Explains how they consulted design specifications to analyse and calculate electrical system parameters and rectification procedures

**Distinction Criteria**

Describes different fault-finding methods they have used, justifying their choices

| Ref. | Apprenticeship Standard Criteria | PORTFOLIO EVIDENCE REFERENCE (Apprentice Input) | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| K4 | Locate, diagnose and rectify faults on plant and equipment. | | | |
| S3 | Principles and processes that underpin the location, diagnosis and rectification of faults. | | | |
| E5 | Consult design specifications to analyse and calculate electrical system parameters and rectification procedures. | | | |
| E10 | Carry out basic fault diagnostics on Programmable Logic Controllers (PLC) and Supervisory Control & Data Acquisition (SCADA) systems | | | |

## GROUP 9: (Mechanical) Duties

**Pass Criteria**

Describes how they have applied technical knowledge in their mechanical duties: inspecting, condition monitoring and reporting, testing, installing, dismantling, repairing mechanical equipment and components

Describes different types of complex plant, machinery and components they have worked on including motors, pumps and gear boxes

If appropriate to the apprentice's workplace, describes their role in driving vehicles equipped with tools and materials to job sites

If appropriate to the apprentice's workplace, describes how they provide 24 hour cover to remedy fault situations requiring diagnostic testing procedures

| Ref. | Apprenticeship Standard Criteria | PORTFOLIO EVIDENCE REFERENCE (Apprentice Input) | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| **S1** | Apply technical knowledge to carry out inspections, condition monitoring and reporting | | | |
| **S12** | Drive vehicles equipped with tools and materials to job sites. | | | |
| **S14** | As required, undertake standby duties to provide 24-hour cover to remedy fault situations requiring diagnostic testing procedures | | | |
| **M2ii** | Inspect and monitor mechanical systems, and inspect, monitor, dismantle and repair mechanical equipment and components. | | | |
| **M5** | Use mechanical knowledge and skills to install, maintain and dismantle a wide range of complex plant, machinery and components. | | | |
| **M8ii** | Repair mechanical equipment as part of planned preventative maintenance and/or reactive maintenance programmes. | | | |
| **M9** | Install and maintain mechanical components including motors, pumps and gearboxes, maintaining and replacing lubricants. | | | |
| **M10** | Inspect and maintain condition monitoring equipment | | | |

## GROUP 10: (Mechanical) Mechanical installation and commission of clean/ wastewater equipment

| | | | | |
|---|---|---|---|---|
| **Pass Criteria**<br>Explains how they have installed/repositioned, replaced, and commissioned equipment and components, including interpretation of plans and testing<br>Describes use of fabrication and welding appropriate to the task<br>**Distinction Criteria**<br>Identifies and explains the potential issues that could arise during the work and how they mitigate against them | | | | |
| **Ref.** | **Apprenticeship Standard Criteria** | **PORTFOLIO EVIDENCE REFERENCE (Apprentice Input)** | | |
| | | **1** | **2** | **3** |
| **S13ii** | Install replace and commission equipment and components as required | | | |
| **M3** | Test mechanical equipment and systems and assist in installing mechanical systems and equipment | | | |
| **M4** | Basic fabrication and welding of structures and components | | | |
| **M7** | Interpret plans and drawings to install, position or re-locate mechanical equipment and components | | | |

## GROUP 11: (Mechanical) Mechanical fault finding and repair

| | | | | |
|---|---|---|---|---|
| **Pass Criteria**<br>Describes how they have located, diagnosed and rectified faults<br>Explains how they consulted design specifications to analyse and calculate mechanical system parameters and rectification procedures<br>**Distinction Criteria**<br>Describes different fault-finding methods they have used, justifying their choices | | | | |
| **Ref.** | **Apprenticeship Standard Criteria** | **PORTFOLIO EVIDENCE REFERENCE (Apprentice Input)** | | |
| | | **1** | **2** | **3** |
| **K4** | Locate, diagnose and rectify faults on plant and equipment. | | | |
| **S3** | Principles and processes that underpin the location, diagnosis and rectification of faults. | | | |
| **M1** | Apply mechanical theories and principles in order to carry out diagnostic fault finding procedures. | | | |
| **M6** | Consult design specifications to analyse and calculate mechanical system parameters and rectification procedures. | | | |

## GROUP 9: (ICA) Duties

**Pass Criteria**
Describes how they have applied technical knowledge in their ICA duties: inspecting, condition monitoring and reporting, testing telemetry outstation and internal system configuration, inspecting and maintaining security equipment, telecommunication devices and alarm systems, supporting day-to-day users of instrumentation and control systems
If appropriate to the apprentice's workplace, describes their role in driving vehicles equipped with tools and materials to job sites

| Ref. | Apprenticeship Standard Criteria | PORTFOLIO EVIDENCE REFERENCE (Apprentice Input) | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| S1 | Apply technical knowledge to carry out inspections, condition monitoring and reporting. | | | |
| S12 | Drive vehicles equipped with tools and materials to job sites. | | | |
| S14 | As required, undertake standby duties to provide 24-hour cover to remedy fault situations requiring diagnostic testing procedures. | | | |
| I5 | Carry out telemetry outstation and internal system configuration. | | | |
| I6 | Identify and resolve data quality and calibration issues. | | | |
| I9 | Use standards and specifications to improve the information gathered by telemetry data. | | | |
| I12 | Inspect and maintain security equipment, telecommunication devices and alarm systems. | | | |
| I13 | Provide support to day-to-day users of instrumentation and control systems. | | | |

GROUP 10: (ICA) ICA installation and commission of clean/waste water equipment

| | | | | |
|---|---|---|---|---|
| **Pass Criteria**<br>Explains how they have installed, tested, replaced, calibrated and dismantled ICT equipment and components (controllers, probes, attachments, cabling, meters and display units)<br>**Distinction Criteria**<br>Identifies and explains the potential issues that could arise during the work and how they mitigate against them | | | | |
| **Ref.** | **Apprenticeship Standard Criteria** | **PORTFOLIO EVIDENCE REFERENCE (Apprentice Input)** | | |
| | | **1** | **2** | **3** |
| **S13ii** | Install replace and commission equipment and components as required. | | | |
| **I3** | Test and calibrate instrumentation and control equipment and circuits and assist in installing instrumentation and control equipment. | | | |
| **I4ii** | Use Instrumentation and Control Systems knowledge and skills to install, maintain and dismantle instruments, controllers, probes, attachments, cabling, meters and display units. | | | |

## GROUP 11: (ICA) ICA fault finding and repair

**Pass Criteria**

Describes how they have located, diagnosed and rectified faults

Describes how they have repaired instrumentation and control equipment and configured and calibrated field instrumentation, communication devices and associated equipment used in system and process control, such as Programmable Logic Controllers (PLC) and Supervisory Control & Data Acquisition (SCADA) systems

**Distinction Criteria**

Describes different fault-finding methods they have used, justifying their choices

| Ref. | Apprenticeship Standard Criteria | PORTFOLIO EVIDENCE REFERENCE (Apprentice Input) | | |
|---|---|---|---|---|
| | | 1 | 2 | 3 |
| K4 | Locate, diagnose and rectify faults on plant and equipment. | | | |
| S3 | Principles and processes that underpin the location, diagnosis and rectification of faults. | | | |
| I1 | Apply theories and principles of electronics to use equipment to carry out diagnostic fault finding procedures. | | | |
| I2ii | Repair and overhaul instrumentation and control equipment. | | | |
| I8iii | Repair, and configure field instrumentation, communication devices and associated equipment used in system and process control, such as Programmable Logic Controllers (PLC) and Supervisory Control & Data Acquisition (SCADA) systems. | | | |