

**T Level in Engineering and  
Manufacturing for Maintenance,  
Installation and Repair**

**8712-313 Electrical and Electronic  
Occupational Specialism Report  
(Summer 2024)**

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# Foreword

## Summer 2024 Results

The occupational specialism qualification is made up of one component, which need to be successfully achieved to attain the T Level Electrical & Electronic Occupational Specialism. We discussed the approach to standard setting/maintaining with Ofqual and the other awarding organisations before awarding this year. We have agreed to take account of the newness of qualifications in how we award this year to recognise that students and teachers are less familiar with the assessments ([grading-arrangements-for-vtqsand-technical-qualifications-within-t-levels-in-the-academic-year-2023-to-2024](#)), whilst also recognising the standards required for these qualifications.

## Introduction

This document has been prepared to be used as a feedback tool for providers in order to support and enhance teaching and preparation for assessment. It is advised that this document is referred to when planning delivery and when preparing candidates for the T Level Technical Qualification (TQ) in Engineering and Manufacturing **Occupational Specialisms**.

This report provides general commentary on candidate performance in the occupational specialism assignment. It highlights common themes in relation to the technical aspects explored within the assessment, giving areas of strengths and weakness demonstrated by the cohort of candidates who sat assessments in the summer 2024 assessment series.

The grade boundaries that were used to determine candidate's final summer 2024 results are also provided. **For summer 2024, as per Ofqual guidance, the approach to grading recognises that these are new qualifications.**

# 8712-313 Occupational Specialism

## **Task 1 Plan the service and maintenance activities:**

Candidates were required to produce several key documents for marking: a list of requirements and resources, including justifications for their selections; a completed risk assessment; and a method statement.

Higher performing candidates have accurately identified the low, medium and high risks with a clear analysis of risk with mitigation and control measures against hazards for the planned tasks. Additionally, they have produced evidence of planning and preparation for the maintenance and repair activities. They have considered the Health and Safety factors to include the preparatory checks on the tools, equipment and work area. The continued use and reference to LOTO by candidates was commendable. The list of requirements and resources required were fully considered as part of the preparatory checks and planning activities.

In the lower performing candidates, the risk assessments lacked ratings and were not able to demonstrate how control measures are used to reduce risk ratings in some cases candidates were not able to identify the difference between risks and hazards. Their method statements did not include pre, during or post-maintenance consideration and lacked details and some key factors in preparation for the activity.

In the higher performing candidates, the method statements materials lists, bill of quantities and risk assessments have comprehensive and detailed lists using the correct technical terms and were thoughtfully organised in a logical sequence, showcasing the candidates' thorough understanding and extensive preparation.

## **Actions providers can take to support assessment preparation for future series:**

In the future, preparatory activities should enable candidates to confidently identify low, medium, and high risks for specific activities, ensuring they consistently refer to relevant legislation and regulations e.g. Health and Safety, and waste disposal. During their planning activities, candidates must meticulously consider the relevant technical documentation for the systems under maintenance. Method statements should include adequate preparation involving evaluating the serviceability and working conditions of the tools and equipment and work area required to complete the tasks.

## **Task 2 Perform the maintenance activities:**

Candidates were tasked with performing service and maintenance activities, identifying and repairing one mandatory fault and three optional faults on a designated electrical system.

The higher performing candidates were able to diagnose and rectify mandatory faults in the system as indicated in the brief and 3 subsequent unknown briefs. They were also able to submit updated maintenance records and control documents, detailed annotated method statements, and recommendations for further investigations. Additionally, completed test record sheets, including calibration results with explanations, were provided. The assembly and re-assembly procedures were carried out with a high level of accuracy and efficiency in most cases.

The majority of candidates performed well in regard to work area preparation, the working area after disassembly, and the reinstated work area. Fault diagnosis lacked outputs, data, and readings when compared to specifications during analysis, as well as a limited interpretation and application of specification parameters and tolerances.

The lower performing candidates showed limited fault detection and diagnostic techniques, with continuity testing and visual inspection commonly used. There was a lack of reference to other fault-finding techniques, such as the 50/50 split. The candidates were able to identify most faults, as they were primarily visual. The faults were rectified to appropriate standards by most candidates.

### **Actions providers can take to support assessment preparation for future series:**

Providers should ensure that candidates practice fault detection using diverse techniques aligned with best practices. Candidates should be encouraged to consult relevant technical documentation pertinent to the maintenance activities.

Candidates should be more familiar with calibration methods and confidently refer to the manufacturer's manual to compare their results and recording procedures. Moreover, utilising measuring equipment, particularly during calibration, can lead to a reduction in trial-and-error activity and repair time.

### **Task 3A Review and report the maintenance activities:**

Candidates were required to produce a technical report and a revised maintenance schedule, accompanied by justifications.

High performing candidates demonstrated proficiency by producing detailed technical reports using accurate industry-standard terms and following comprehensive reporting procedures for managing stock levels, materials, and resources. On the other hand, lower performing candidates exhibit limitations in reporting procedures and lack accuracy and technical references when making amendments to technical documentation. In some instances, there were no amendments made to technical documentation at all. There was a lack of explanation on the faults rectified with a missed date for the next maintenance schedule.

### **Actions providers can take to support assessment preparation for future series:**

Candidates should strive to become well-versed in the use of accurate industry-standard terminology. Furthermore, they should embrace the opportunity to report on stock level management, material handling, and resource utilisation procedures. Additionally, candidates should eagerly familiarise themselves with technical documentation, such as technical manuals, to enhance their technical reporting and evaluation skills. It is also crucial for candidates to master clear explanations of fault reporting techniques.

### **Task 3B Peer review:**

Candidates were required to conduct a peer review of two annotated method statements provided by the assessor, write detailed feedback for each, and subsequently update their own annotated method statements based on the peer feedback received.

The majority of candidates managed to annotate their method statements following feedback from the peer review. This included justifications for any changes, and any changes not made were reviewed in the handover. In most cases the candidates were able to state how well the method statement enable planned maintenance activities to be performed and recorded; appropriateness of the method statement with reason; the implications to the business of the proposed method statement; how the method statement is optimised/improved. The high-performing candidates carry out changes which were suitable to maintenance processes procedures as a result of feedback from their peers and include appropriate dates for next and future planned maintenance activities. Some candidates did not consider changes to maintenance processes as a result of feedback but justified it in their report.

#### **Actions providers can take to support assessment preparation for future series:**

Enhance peer review training, focusing on developing skills in constructive and specific feedback. Emphasize the importance of analytical reasoning for justifying modifications based on feedback. Provide comprehensive examples of annotated method statements and other technical documentation e.g. risk assessments and maintenance schedules, demonstrating effective incorporation of feedback. Organise mock peer review sessions for practice and use Performance Observation (PO) forms consistently to offer detailed constructive feedback on strengths and areas for improvement.

Assessors are required to meticulously ensure that the feedback provided by peers is thorough before issuing it to the candidate.

#### **Task 4 Complete Handover:**

Candidates are required to conduct a formal meeting with their supervisor to facilitate the return to service and complete the handover procedures. This included demonstrating system functionality and confirming the completion of assigned tasks. Video evidence was captured to document the candidates' execution of tasks and amendments to their method statements.

The submitted handover documentation could have been more comprehensive in capturing the strengths and weaknesses of the candidates. In some cases, the documentation provided was too succinct. High performing candidates utilising handwritten notes to ensure all pertinent points were covered during their handover. The high performing candidates conveyed a thorough operational demonstration of the system's functionality, offering detailed verbal descriptions and explanations of the completed work in a precise manner. They meticulously followed application procedures and utilised appropriate terminology that was well-suited for the audience. Conversely, low-performing candidates presented significantly shorter handovers with limited application of handover procedures and technical terminology. Their operational demonstration was brief and omitted critical statements.

#### **Actions providers can take to support assessment preparation for future series:**

Improve candidates' presentation skills and confidence in using technical terminology, ensuring their work is structured and coherent. Using speaker notes is advisable. Additionally, they should be familiar with effectively using relevant documents during the handover process and be able to provide clear explanations when doing so.



## **Best practice and guidance to providers on potential areas for improving performance in assessment**

It is recommended that providers utilise and deliver the sample assessments as formative assessment to support candidates in preparation for summative assessment. This will not only help prepare candidates but will be an ideal opportunity for marker training and standardisation.

The centre staff and candidates must thoroughly read the assessment to ensure the work is carried out to the design criteria required. Moderators will be working to the assessment brief and marking grids and making judgments accordingly.

Appropriate PPE should be worn at all times and assessors should ensure that candidates are working safely and should not come to harm or risks to health from the materials, tools or equipment used in the assessment.

Where photographic evidence is requested ensure all stages of maintenance and testing activities.

Photographs do not need to be great in number but do need to show everything a moderator would require to be able to perform the remote moderation work. Photos need to be of sufficient resolution to enable “zooming in” to determine quality. Photographs should be collated into one document, and well labelled, and with commentary if possible.

Videos will need to show specific and important points of the assessment, for instance the candidate completing handover meetings.

Utilisation of the Photographic Evidence Guidance Document would support providers to capture relevant and valuable information for marking and moderation purposes to support practical observation feedback.

Providers should ensure that practical observation forms are detailed, covering all aspects of the activity being observed. The practical observation records should contain accurate information, specific to the candidate being observed and offer differentiating commentary between individual candidate’s performance utilising the marking grid terminology. They should also identify areas of strength and weakness to distinguish between the different qualities of performance and to facilitate accurate allocation of marks once all evidence has been submitted.

## Support materials

### **Sample and Past Occupational Specialism (OS) Assessments:**

It is recommended that Providers utilise and deliver the **sample OS** as well as **past OS** (if available) as formative assessment to support candidates in preparation for summative assessment.

Sample and past OS (if available): [T Level Practical Assignment - Electrical & Electronic: Sample Assessor Pack \(cityandguilds.com\)](#)

### **Guide Standard Exemplification Material (GSEM) Assessments:**

It is also recommended that Providers utilise the **GSEMs** to help understand the standard required to achieve a Distinction and Pass grade.

8712-313 OS Distinction GSEM: [T Level Technical Qualification in Maintenance, Installation and Repair – Electrical & Electronic – Guide Standard Exemplification Materials – Distinction \(cityandguilds.com\)](#)

8712-313 OS Pass GSEM: [T Level Technical Qualification in Maintenance, Installation and Repair – Electrical & Electronic – Guide Standard Exemplification Materials – Threshold Competence \(cityandguilds.com\)](#)

### **TQ Occupational Specialism Assessment Process Guide:**

The guide gives support to Providers in preparing for and delivering T Level Occupational Specialism assessments.

Link: [TQ Occupational Specialism Assessment process guide \(cityandguilds.com\)](#)

### **Events and Webinars:**

City & Guilds run free webinars and events throughout the year on preparing for and delivering the T Level Occupational Specialisms. The below link provides details on upcoming in person events, live webinars, on-demand webinars and preparation for the Occupational specialism assessment.

Link: [Events and webinars - T Levels | City & Guilds \(cityandguilds.com\)](#)

# Grade boundaries

The table below shows the grade mark ranges for the Occupational Specialism **for the summer 2024 series**.

<b>Grade</b>	<b>Mark range</b> <b>8712-313</b>
Distinction	63-90
Merit	48-62
Pass	34-47
Unclassified (U)	0-33

## Get in touch

The City & Guilds Quality team are here to answer any queries you may have regarding your T Level Technical Qualification delivery.

Should you require assistance, please contact us using the details below:

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Web chat available [here](#).

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