



**T Level Design and Development  
for Engineering and  
Manufacturing Occupational  
Specialism**

**8714-323 Control and Instrumentation  
Occupational Specialism Report  
(Summer 2025)**

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# Foreword

## Summer 2025 Results

The occupational specialism qualification is made up of one component, which need to be successfully achieved to attain the T Level Design and Development in Engineering and Manufacturing – Control and Instrumentation Occupational Specialism.

We discussed the approach to standard setting/maintaining with Ofqual and the other awarding organisations before awarding this year. As in 2024, we have agreed to take account of the newness of T Level qualifications in how we award, to recognise that students and teachers are less familiar with the assessments in the first years of awards, whilst also recognising the standards required for these qualifications

(<https://www.gov.uk/government/publications/ofqual-guide-for-schools-and-colleges-2025/ofqual-guide-for-schools-and-colleges-2025#grading>).

## 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 Design and Development in Engineering and Manufacturing – Control and Instrumentation **Occupational Specialisms**.

This report outlines the requirements for each task in the occupational specialism assignment and provides targeted recommendations for assessment preparation in future series. It also shares best practice guidance to help providers enhance performance. There were insufficient entries to provide detailed assessment performance commentary.

The grade boundaries that were used to determine candidate's final summer 2025 results are also provided. **For summer 2025, as per Ofqual guidance, the approach to grading recognises that these are new qualifications.**

# 8714-323 Control and Instrumentation Occupational Specialism

## Task 1 Design

The purpose of Task 1 is to assess the ability of the candidates to design a control system that meets the specified design criteria. This includes producing a design specification, identifying materials and components, completing technical design calculations and presenting engineering drawings and virtual models.

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

- guide candidates in independently developing comprehensive specifications, calculations and bills of materials relevant to the context of the assignment brief
- encourage candidates to follow industry-standard conventions in all diagrams and sketches.
- diagrams should be clearly labelled, include part numbers, wire types and be presented in a way that allows third-party replication
- candidates should insert screenshots of their virtual models showing active states (e.g. output triggers, alarms) with labels and brief descriptions, rather than linking to external platforms.

## Task 2 Manufacture and test

The purpose of Task 2 is to assess the ability of candidates to safely construct and test a prototype control system, demonstrating practical manufacturing skills, appropriate tool use and the ability to verify system functionality against the design criteria. This task also assesses adherence to health and safety protocols throughout the build and testing process.

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

- candidates should be encouraged to document their testing using instruments such as multimeters or oscilloscopes and to record data (e.g. voltage levels, resistance, current) in a clear and structured format
- photographic and video evidence should show the system under test conditions, with outputs clearly visible (e.g. Light emitting Diode (LEDs) lit, buzzers sounding) and, where possible, narrated or annotated to explain what is being demonstrated
- providers should help candidates develop confidence in using test tools and interpreting results. This includes identifying expected values, comparing actual readings and recognising errors.

## Task 3 Peer review

The purpose of Task 3 is to assess the ability of candidates to critically evaluate the design and implementation of their peers' control systems and reflect on constructive feedback to

improve their own work. This task encourages collaborative thinking, technical communication, and self-assessment based on peer input.

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

- encourage candidates to provide and respond to feedback using accurate, engineering-specific terminology
- reinforce that Task 3 is not just about receiving suggestions, but also about developing the ability to critically evaluate the design decisions of others and evaluate feedback from peers
- ensure candidates understand that peer feedback should directly inform the revision control process in Task 4, making the review meaningful and traceable.

**Task 4 Evaluation and implementation**

The purpose of Task 4 is to assess the ability of candidates to evaluate the performance of their control system, document changes made during the development process and provide clear implementation guidance for third-party use. This includes reflecting on design effectiveness, justifying revisions, referencing relevant legislation and producing structured reports and records.

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

- encourage candidates to write clear, step-by-step instructions for third-party system installation, including sensor placement, cable types, and connection sequences.
- use of tables and diagrams should be emphasised to enhance clarity
- support candidates in maintaining detailed revision logs that clearly explain what changes were made, why they were necessary, and how they were tested or validated
- candidates should be taught how to present test results in structured formats, including voltage/current readings, expected vs actual values, and references to specific design criteria being tested. Tables, graphs, or annotated screenshots can improve clarity and technical rigour
- providers should encourage candidates to embed references to applicable standards (e.g. BS7671, Health and Safety at Works Act (HASAWA), Provision and Use of Work Equipment Regulations (PUWER)) within their evaluation and explain how these influence installation and commissioning decisions.

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

It is recommended that providers utilise and deliver the published assessments as formative assessment to support candidates in preparation for summative assessment. This will not only help to prepare candidates but will be an ideal opportunity for marker training and standardisation. It is also recommended that providers share the Guide Standard Exemplification Materials (GSEM) and Grade Standard Exemplification Materials (GrSEMs) with candidates, to support with exemplification of the assessments and evidence outputs.

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

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

Where photographic evidence is requested, ensure all stages of servicing and maintenance activities are included.

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

Videos will need to show specific and important points of the assessment, for instance the candidate completing their handover. In addition, candidates need to show and comment on the documentation required for handover.

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): [8714-323 D&D Control and Instrumentation OS SAMPLE](#)

### 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.

8714-323 OS Distinction GSEM: [T Level Technical Qualification in Design and Development in Engineering and Manufacturing – Control and Instrumentation – Guide Standard Exemplification Materials - Distinction](#)

8714-323 OS Pass GSEM: [T Level Technical Qualification in Design and Development in Engineering and Manufacturing – Control and Instrumentation – Guide Standard Exemplification Materials - Pass](#)

### 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 2025 series**.

<b>Grade</b>	<b>Mark range</b>
	<b>8714-323</b>
Distinction	66-90
Merit	51-65
Pass	37-50
Unclassified (U)	0-36

**T-LEVELS**



## 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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