



PROJECT CONTROLS TECHNICIAN APPRENTICESHIP STANDARD LEVEL 3

Attract great talent, upskill your teams
and plan for your future.

Suitable for both new and existing employees.



PROGRAMME OVERVIEW

DURATION

The duration of this apprenticeship is typically 38 months (depending on experience)

STUDY MODE

- Online with tutor led sessions.
- Blended learning with online and face-to-face sessions and support (at the employers premises)
- There is an End-Point-Assessment for this apprenticeship. This is when the learner will demonstrate they have learnt the required knowledge, skills and behaviours.

QUALIFICATIONS TO BE AWARDED

- Level 3 Project Controls Technician Apprenticeship
- Level 3 Diploma in Project Control Practice
- Functional Skills English and maths (if required)

PROGRESSION OPPORTUNITIES

On completion, the apprentice will be eligible to apply for membership of the Association of Cost Engineers (ACostE) as a Graduate Member, and will also be eligible to apply for registration as an Engineering Technician (EngTech), subject to having suitable engineering experience and undergoing a professional review process.

ON-PROGRAMME LEARNING		EPA	
KNOWLEDGE & SKILLS <ul style="list-style-type: none">• Project controls• Technical information• Estimating practice• Planning and scheduling practice• Cost engineering practice• Work breakdown and coding structures• Tracking data and progress reporting• Analysis techniques• Technical, engineering and mathematical principles• Importance of safety• Employer organisation, management systems, and procedures• Commercial matters• Project controls related software and IT systems	<ul style="list-style-type: none">• Develop work breakdown and coding structures• Manage data• Estimate• Schedule and plan• Cost engineer and control• Monitor progress/ performance and analyse data• Use computer based technology• Problem solve• Effectively communicate• Input to project closeout• Observe and apply professional ethics• Apply safety in the context of the role• Work in accordance with company management systems, policies and procedures	BEHAVIOURS <ul style="list-style-type: none">• Strong work ethic, takes personal responsibility for own work, meets deadlines, sets the right example for others and displays honesty and integrity• Team player that shows sensitivity to others and works collaboratively demonstrating an openness to others' ideas and input• Positive attitude, constructive thinking and able to adjust to change• Attention to detail, with an enquiring mind, not afraid to ask questions, seek assistance or challenge• Committed to advancing own learning and competence, showing a willingness to learn new skills• Applies and upholds principles of social responsibility, environmental sustainability, equality and diversity.	EPA GATEWAY
0-34 MONTHS		4 MONTHS	
		END-POINT-ASSESSMENT	

KNOWLEDGE OVERVIEW

A PROJECT CONTROLS TECHNICIAN WILL BE ABLE TO UNDERSTAND AND HAVE KNOWLEDGE OF:

PROJECT CONTROLS

The project life-cycle, breakdown structures, the relationship between time and cost, quality and risk, how project controls is critical to successful project delivery.

TECHNICAL INFORMATION

How to review and interpret technical information from different sources e.g. engineering drawings, manufacturing plans or construction plans to develop the scope for control.

ESTIMATING PRACTICE

Classes of estimate, how to interpret technical requirements and specifications to develop the estimate, techniques for estimate development such as parametric, analogous, bottom-up.

PLANNING AND SCHEDULING PRACTICE

Difference between planning and scheduling, key terms and processes used to produce control schedules, how to interpret the technical requirements to produce a workable control schedule including development of logic networks, dependencies, critical paths, resource management, levelling and smoothing and impact of uncertainty and risk.

COST ENGINEERING PRACTICE

Key terms and processes related to preparing control budgets, cash flow, cost control and cost engineering relationships

WORK BREAKDOWN AND CODING STRUCTURES

Their purpose, how to create, use and interpret them to enable accurate control and the need for flexibility

TRACKING DATA AND PROGRESS REPORTING

Collection, validation and monitoring of data against plan, reviewing accuracy of reporting, how to tailor the presentation of data for understanding and buy-in.

ANALYSIS TECHNIQUES

How to identify trends and variances using techniques such as earned value analysis, forecasting, critical path analysis and risk analysis.

TECHNICAL, ENGINEERING AND MATHEMATICAL PRINCIPLES

What these are and how to apply them to support effective project controls within the context of the role.

IMPORTANCE OF SAFETY

Relevant engineering, construction and infrastructure specific knowledge including related national and industrial health, safety and environmental standards and legislation.

EMPLOYER ORGANISATION, MANAGEMENT SYSTEMS, AND PROCEDURES

Related governance including quality, change control, data management and security, configuration management, version control, risk analysis and management, and document control.

COMMERCIAL MATTERS

How they impact on the role, the basics of contract and supply chain management.

PROJECT CONTROLS RELATED SOFTWARE AND IT SYSTEMS

Attributes, limitations and systems used, in-house and proprietary applications used for: planning and scheduling, cost and risk analysis, estimating and progress and performance monitoring.

SKILLS OVERVIEW

A PROJECT CONTROLS TECHNICIAN WILL BE ABLE TO DEMONSTRATE THE FOLLOWING SKILLS WITHIN THE CONTEXT OF THE ORGANISATION:

DEVELOP WORK BREAKDOWN AND CODING STRUCTURES

To meet the scope laid out in the projects' technical information and specification, ensuring that the controls will monitor project progress and performance accurately.

MANAGE DATA

Source, retrieve, check, edit, format, record and analyse data – using it to create relevant time, cost and resource reports.

ESTIMATE

Develop cost estimates for defined scopes of work, create appropriate benchmarks, analyse quotes from sub-contractors and suppliers, and input to tenders and the early stages of projects.

SCHEDULE AND PLAN

Break down the scope into activities to create a logical linked control schedule to input to the development of outline and integrated plans and baseline schedules; identify critical milestones; gather accurate progress data for controlling the schedule; and monitor progress.

COST ENGINEER AND CONTROL

Prepare control budgets, carry out cost control activities, gather and interpret cost data, monitor progress on a regular basis, interpret trends and forecasts; keep in line with contractual requirements, maintain baselines; ensure accurate reporting and control.

MONITOR PROGRESS/ PERFORMANCE AND ANALYSE DATA

Associated with milestones, schedules, progress, manpower, resource and costs; undertake earned value analysis, create progress reports and identify variances from plan and likely consequences if no corrective action is taken.

USE COMPUTER BASED TECHNOLOGY

Model potential trends and resource use etc. using the right software package for the right task.

PROBLEM SOLVE

Recommend early corrective actions to reduce variances, identify issues and risks, present and maintain related action plans and contingencies.

EFFECTIVELY COMMUNICATE

With good interpersonal skills and share the right information with the right people in an appropriate format to enable effective project control.

INPUT TO PROJECT CLOSEOUT

Generate key benchmarks and outturns including lessons learnt.

OBSERVE AND APPLY PROFESSIONAL ETHICS

And maintain a duty of care.

APPLY SAFETY IN THE CONTEXT OF THE ROLE

Comply with relevant national and international health, safety and environmental requirements.

WORK IN ACCORDANCE WITH COMPANY MANAGEMENT SYSTEMS, POLICIES AND PROCEDURES

Especially those relating to quality, data security, risk, change and document management.

BEHAVIOURS OVERVIEW

A PROJECT CONTROLS TECHNICIAN WILL BE ABLE TO DEMONSTRATE THE FOLLOWING BEHAVIOURS:

BEHAVIOURS

- Strong work ethic, takes personal responsibility for own work, meets deadlines, sets the right example for others and displays honesty and integrity
- Team player that shows sensitivity to others and works collaboratively demonstrating an openness to others' ideas and input
- Positive attitude, constructive thinking and able to adjust to change
- Attention to detail, with an enquiring mind, not afraid to ask questions, seek assistance or challenge
- Committed to advancing own learning and competence, showing a willingness to learn new skills
- Applies and upholds principles of social responsibility, environmental sustainability, equality and diversity.

EPA GATEWAY

END-POINT-ASSESSMENT GATEWAY READINESS

The EPA will be triggered by the following events:

- the minimum time duration allocated to the Standard has been met;
- judgement of readiness to go beyond the gateway is the decision of the Employer based on completion of all on-programme requirements.
- the apprentice believes they are ready to submit, to the EPAO, a selection of exemplary evidence, in their portfolio, which fulfil the knowledge, skills and behavioural practice in relation to the Standard.
- the employer to confirm that the portfolio is ready to submit to the EPAO
- the EPAO confirms that the portfolio has been received
- successful completion of English and maths: a minimum Level 2 qualification in English and mathematics and a vocational qualification (VQ) at Level 3 in Project Controls Practice is required for this apprenticeship and must be achieved prior to the End-point Assessment (EPA), and confirmed by the employer.

END-POINT-ASSESSMENT

END-POINT-ASSESSMENT METHODS

The end-point-assessment consists of three assessment methods:

1. Knowledge test
2. Practical test
3. Structured interview

KNOWLEDGE TEST

This provides each apprentice with an opportunity to demonstrate the knowledge and understanding required. The apprentice takes an online knowledge test in a controlled and invigilated environment. This could be at the Employer's premises. The invigilator must meet the requirements of the AO chosen by the Employer and could be someone from the Employer. It is a closed book test with no supporting documents allowed. The apprentice must pass this element of the EPA in order to move onto the practical test. It is expected that the test is taken and marked by an online system.

The online knowledge test assesses the apprentice's ability to apply his or her knowledge and should include both simple multiple choice (approx. 45 minutes and 50 questions) and complex multiple choice based on project scenarios (recommend 1 scenario with 10 complex multiple-choice questions and 45 minutes). This test should include questions on the application of the following knowledge:

- fundamentals of project controls
- interpretation of technical information for project controls
- estimating practice terms and key techniques
- planning and scheduling terms and key techniques
- cost engineering terms and key techniques
- work breakdown and coding structures – creation, interpretation and flexibility
- tracking data and progress reporting
- analysis techniques – earned value analysis, critical path analysis and risk analysis
- typical company management systems, policies and procedures (the principles of, as appropriate)
- commercial matters: how they impact project controls, the basics of contract, contract terms and supply chain management
- the principles of project controls related software and IT systems related to the identification of inaccuracies or discrepancies in data and methods of data validation and verification

Some elements of technical knowledge are not covered by the knowledge test and these will be assessed as part of the structured interview.

PRACTICAL TEST

It is critical that the apprentice is able to demonstrate that they can apply their technical skills; technical knowledge and related behaviours with minimal supervision and the Employer must have confidence in the apprentice's ability to undertake technical data analysis, pay attention to detail and identify potential issues and to communicate this information appropriately. This test will take place in a controlled, invigilated environment. This could be at the Employer's premises. The invigilator must meet the requirements of the AO chosen by the Employer and could be someone from the Employer. It will be a written, paper based test with no supporting documentation allowed. It will take no more than 120 mins.

This practical test:

- must be designed to test the apprentice's ability to take raw data, review it, analyse it, interpret it, identify issues and assumptions, and communicate it appropriately
- must be based on real-world scenarios
- is seen for the first time on the day of the actual test
- will include a workbook with tables, some of which are partly pre-populated
- this test focuses on the following technical skills and behaviours detailed in the Apprentice Standard (it will also test the application of the apprentice's project controls knowledge):
 - develop work breakdown and coding structures
 - manage data
 - estimate
 - schedule and plan
 - cost engineer and control
 - monitor progress/performance and analyse data
 - forecast
 - problem solve
 - effective communication – via effective presentation of the data within this test
 - risk management
 - project closeout – lessons learned
 - an element of
 - safety considerations
 - ethical and duty of care considerations
 - behaviours
 - attention to detail, with an enquiring mind
 - applies and upholds principles of social responsibility, environmental sustainability, equality and diversity.

STRUCTURED INTERVIEW

The structured interview takes place after successful completion of the knowledge test and practical test. It could take place at the Employer's premises, as long as the interview room meets the requirements of the AO.

The interview is Chaired and led by an independent assessor from the AO, plus a minimum of two others (i.e. a panel of 3), of which at least one must be an independent assessor (see Annex 2), the other should either be from the AO or the Employer (this is optional), this representative must NOT be the Apprentice's line manager and has no influence on the assessment. The Chair determines the final decision on the scores awarded.

The structured interview will focus on assessing the Apprentice's application of knowledge, skills, behaviours and attitude. The structured interview should take 60-80 mins.

GRADING AND DETERMINATION

To obtain the final grade the mark awarded to each element is multiplied by the weighting to create a final mark mathematically. Then grading rules are applied to award a final fail, pass, merit or distinction.

The decision on the overall grade awarded to the apprentice is made by the AO. On completion of the EPA the AO reviews the scores from each of the components and awards a fail, pass, merit or distinction to the apprentice.

COSTS

This programme costs £21,000 and is covered through a companies Apprenticeship Levy.

If the employer does not pay into the levy they will only pay £1,050 if they have more than 50 employees or if the apprentice is aged 19+. Employers with less than 50 employees receive full funding if the apprentice is aged 16-18.



MORE INFORMATION

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