Welcome to the T Level Engineering & Manufacturing

The webinar will begin shortly

February 2023

T-LEVELS | Institute for Apprenticeship & Technical Education

Engineering and Manufacturing

Delivering the Employer Set Project for Engineering, Manufacturing, Processing and Control Pathway

City & Guilds | eal

Using the webinar platform

Our action plan supports the planning and delivery stages to prepare for the TQ launch

Send any questions in the question area throughout the webinar

All attendees will be set to mute

Webinar resources will be shared on our website shortly after

Agenda

Agenda	
1	Overview of the core assessments
2	Employer set Project (ESP)
3	Assessment window-tasks-timings-evidence required
4	What's being assessed
5	Assessment objectives
6	Q&A

- Overview of Core assessment
- The assessment requirements of the ESP Core
- Evidence

- Occupational specialisms
- Progression
- Industry placements
- Reviewing content
- Core Theory Exams

Q&A

Will there be any additional support for uploading of evidence?

Yes, there is a guide for the ESP Link below
ESP Guide

When will the ESP be released to centres?

The ESP will be available to centres on 6th March 2023 via your T Level portal. You will be notified how you can access this. All 4 tasks will be released to you at the same time to help you plan your assessments.
Link to Key date Schedule Resource Hub

When can I release the ESP to learners?

The ESP is administered to learners during the assessment window which opens on 13th March and closes on 31st March 2023.

How is the ESP marked and graded ?

The ESP is externally marked by C&G–an overview of how this is marked is covered in the webinar presentation

Can learners retake/resit the ESP and if so, when?

Yes there is an opportunity for a resit/retake in the autumn series which runs from 6th November to 24th November 2023

***It is crucial that centres read all the assessment documentations ahead of delivering the assessments.**

How is the ESP structured, what do learners have to do?

What does each task consist of ?

What evidence do I need to provide to C&G ?

Q&A

All these questions are answered in the webinar presentation

What do we need to do to keep assessment evidence secure?

How long do learners have to complete the ESP?

Overview of the Core Assessment for Engineering & Manufacturing

Learners must complete:

- **Two** externally set exams covering knowledge from the Engineering core (component 680)
- **One** employer-set project covering knowledge and skills from either pathway. **Note:** ESP is different for each pathway (component 680)

Technical Qualification scheme of assessment components – Engineering, Manufacturing, Processing & Control Pathway

Core component – Learners must complete all assessment components

Assessment component	Method	Duration	Marks	Weighting	Marking	Grading
Exam paper 1	Externally set exam	2.5 hours	100	35%	Externally marked	This component will be awarded on the grade scale A* -E
Exam paper 2	Externally set exam	2.5 hours	100	35%	Externally marked	
Employer-set project	Externally set project	15.5 hours	90	30%	Externally marked	

Timelines for ESP assessments windows (inc. retake/resit)

Core Assessments Summer 2023 assessment dates/windows	
Employer-Set Project (ESP) materials release	6 March 2023
Employer-Set Project (ESP) delivery window	13 March 2023 to 31 March 2023
Employer-Set Project (ESP) evidence upload deadline	31 March 2023
Exam Paper 1	6 June 2023 9:30-12:00*
Exam Paper 2	13 June 2023 9:30-12:00*
Special consideration requests deadline	Five working days after the exam/submission date

*Provisional until after General Qualifications (GQs) exam dates confirmed

Dates will change annually, refer to Key dates in T Level resource hub

Core Assessments Autumn 2023 assessment dates/windows	
Employer-Set Project (ESP) materials release	30 October 2023
Employer-Set Project (ESP) delivery window	6 November 2023 to 24 November 2023
Employer-Set Project (ESP) evidence upload deadline	24 November 2023
Exam Paper 1	28 November 2023 9:30-12:00*
Exam Paper 2	5 December 2023 9:30-12:00*
Special consideration requests deadline	5 working days after the exam/submission date

Technical Qualification – Employer Set Project

What is the ESP ?

The employer-set project is a classroom-based assessment undertaken in controlled conditions, (*not invigilated conditions)* as prescribed within the candidate and centre guidance packs.

The core employer set project (ESP) sub-component assesses the skills and application of the core knowledge of the TQ.
Each project will be developed together with employers in the industry to reflect realistic types of developments, activities and challenges.

The project is linked to the core skills: the candidate and centre guidance packs.

The project is made up of a number of tasks which all relate to the same Employer-set project brief; Each ESP will have different tasks relating to the specific pathways. For example in EMPC the tasks are:

- Research
- Report
- Design
- Present

The ESP is in the form of a realistic brief to be achieved through completion of research, plan, present, review tasks designed to elicit appropriate evidence for assessment under specified assessment conditions.

A new brief and tasks will be set each series covering different topics.

More Information on the ESP

The employer-set project samples content from across the core of the Technical Qualification (TQ). However, due to their importance all versions of the employer-set project will cover content from the following core underpinning knowledge outcomes of specific knowledge and skills for each specialism will be assessed in the practical assignments:

The project is linked to the core skills (each pathway has different core skills):

EMPC core skills (page 19 onwards in the specification).

- Core skill A (**MPC-CSA**) Analyse and interpret an Employer Set Brief
- Core skill B (**MPC-CSB**) Plan and prepare suitable responses to the brief
- Core skill C (**MPC-CSC**) Develop response/s using key skills and processes
- Core skill D (**MPC-CSD**) Evaluate and quality assure processes and outcomes.
- Core skill E (**MPC-CSE**) Communicate and present outcomes and evidence

Assessment overview:

The project only draws on the content from the common core knowledge and skills content that sit across all core modules for the Engineering & Manufacturing common core

Learners will be marked on the quality and accuracy of the written work they produce.

How the Employer Set Project (ESP) is structured for MPC

Task		Conditions	Evidence produced	Evidence submitted?	Timings	Marks available
1	Research	Supervised/ controlled	Research notes, list of references /sources	Yes	3 hours	15
2	Report	Supervised/ controlled	Written report	Yes	4 hours	18
3	Design	Supervised/ controlled	Assembly drawings, design calculations	Yes	6 hours	24
4	Present	Supervised/ controlled	Presentation materials (slides, handouts etc.), video recording of presentation	Yes	2.5 hours	24
				Total	15.5 hours	81
					Maths, English and digital skills*	9
					Total marks	90

- ***Tasks must be released to candidates in order of sequence and one task at a time
- The time allocated and allocation of marks are not related
- It is the weighting and level of skills being assessed that determine the marks for each task.

Employer Set project for EMPC

Task		Conditions	Evidence produced	Evidence submitted?	Timings	Marks available
1	Research	Supervised/ controlled	Research notes, list of references /sources	Yes	3 hours	15
2	Report	Supervised/ controlled	Written report	Yes	4 hours	18
3	Design	Supervised/ controlled	Assembly drawings, design calculations	Yes	6 hours	24
4	Present	Supervised/ controlled	Presentation materials (slides, handouts etc.), video recording of presentation	Yes	2.5 hours	24
				Total	15.5 hours	81
					Maths, English and digital skills*	9
					Total marks	90

Employer-set project

Component	Assessment method	Assessment weighting
AO1 Plan approach to meet brief	Evidence of a planned approach to work, considered sequence of activity, evidence of prioritisation, review and iterative working. Clearly structured response to brief, cohesive response with ordered sections, logical approach to referencing, research and use of sources, response completed meeting required parameters, sources used effectively and integrated into response, effective use of time allocation available for presentations.	13.3%
AO2 Apply knowledge and skills to contexts	Linking knowledge principles and ideas and applying them in context of the brief when considering compiling response use of materials, concepts etc. Applying core skills e.g. communication, problem solving appropriately throughout tasks within project.	50%
AO3 Select techniques and resources to meet brief	Analysis of key issues, drawing together considerations and considering impacts of elements on each other (not just in isolation), consideration and analysis of the reasons for doing things in a particular way.	13.3%
AO4 Use maths, English and digital skills	Use of correct terminology, abbreviations, units of measurement in context, consideration of audience of brief response (technical versus non-technical wording), use of calculations/diagrams etc appropriately, consideration of the use of ICT and digital methods both in brief response and in presentation.	10%
AO5 Realise project outcome and review how well the outcome meets the brief	Considered analysis and evaluation of project outcome, response conclusion or evaluation, identification of solutions in response to brief problem with evidence of evaluation of other options and reasons for rejection of other options where not appropriate.	13.3%

Assessment Objectives for EMPC

Assessment objectives

The Employer-Set Project is assessed against five assessment objectives. The assessment objectives are mapped against each task within the marking grids:

AO Ref	Assessment Objective
AO1	Plan their approach to meeting the project brief.
AO2	Apply core knowledge and skills as appropriate:
• AO2a	○ core knowledge
• AO2b	○ core skills: i) **analysing and interpreting -** Evaluate and confirm the brief with reference to context, objectives and constraints (e.g. requirements, resources, precedents, technical issues, costs, health and safety, regulations, possibilities) ii) **planning and preparation -** Propose and plan key activities, stages, methods, processes, techniques, documentation, resources (including types of tools and equipment) and risk assessments iii) **developing responses** - Apply engineering and manufacturing processes to achieve specific objectives and to produce quality outcomes, using relevant techniques and technology, within limits of own authority iv) **evaluating and quality assuring** - Carry out investigations, generate proposals and options, identify standard components and systems at relevant stages to gather and evaluate relevant evidence and data, and to confirm the suitability of plans, processes, actions and outcomes (including quality control and quality assurance activities) v) **communication and presentation -** Record, report, communicate and present plans, proposals, processes, issues, risks and outcomes to both technical and non-technical audiences, across a range of suitable formats and media (e.g. diagrams, physical and digital records, presentations).
AO3	Select relevant techniques and resources to meet the brief.

EMPC ESP Sample Marking Grid Page 5

Assessment Objectives for EMPC

AO Ref	Assessment Objective
AO4	Use maths, English and digital skills as appropriate:
• AO4a	○ maths - Use of calculations to determine sizes, tolerance build up, and clearances required for the design
• AO4b	○ English - Demonstration of the ability to explain an approach to a task using written English. This should involve the use of correct engineering terminology, effective punctuation and grammar to clearly explain an approach
• AO4c	○ digital - Use of CAD systems, researching standards and electronic information from websites to gather information of standard parts.
AO5	Realise a project outcome and review how well the outcome meets the brief:
• AO5a	○ realise a project outcome – was the right outcome achieved
• AO5b	○ review how well the outcome meets the brief, how well was the brief met, the quality of the outcome in relation to the brief.

EMPC ESP Sample Marking Grid Page 5

ESP Marking Distribution - EMPC

Employer-set project mark distribution

This table illustrates how the 90 marks for the employer-set project are distributed against the tasks and mapped to each assessment objective. These have been set by subject matter experts and employers and will support the comparability between versions of the employer-set project over time.

Tasks	AO1	AO2a	AO2b	AO3	AO5a	AO5b	Total	AO4a	AO4b	AO4c	
1. Research	3	3	6	3	0	0	15	3	3	3	
2. Report	3	6	6	3	0	0	18				
3. Design	3	6	6	3	3	3	24				
4. Present	3	6	6	3	3	3	24				
Total	**12**	**21**	**24**	**12**	**6**	**6**	**81**	**9**			**90**
AO marks	12	45		12	12		-	9			90
AO %	13.3%	50%		13.3%	13.3%		-	10%			100%

NB - AO2 collectively must be at least 50% (i.e. 45 marks).

EMPC ESP Sample Marking Grid Page 7

Task 1 Research

(Planning, core knowledge, selecting techniques and resource) **(3hrs) (15 marks)**

(The logical investigation into and study of materials and sources in order to establish facts and reach new conclusions).

Tasks	AO1	AO2a	AO2b	AO3	AO5a	AO5b	Total
1. Research	3	3	6	3	0	0	15

The evidence produced in task (1) is required for completion of task (2) therefore task (1) must be completed before task (2) can be attempted.

Evidence Required:

- Research Notes(typically 1500 words – three A4) hard copy or file saved securely
- List of references/sources (copied and paste website used).

Task-specific requirements and considerations

- Candidates should have access to the Internet in order to conduct research.
- The research notes will typically be 1500 words.
- Candidates should be reminded to keep a record of their sources as these have to be submitted as evidence.

Task 2 Report

(Planned approach, selecting techniques, Realise outcome, review outcome) **(4hrs) (18 marks)**
(written account of something that has been investigated)

Tasks	AO1	AO2a	AO2b	AO3	AO5a	AO5b	Total
2. Report	3	6	6	3	0	0	18

Evidence Required:

- Written report (typically 2000 words) include evidence such as Health and Safety and Quality Assurance

Task-specific requirements and considerations

- Candidates should have access to the Internet
- The written report will typically be 2000 words.
- Candidates will have access to a copy of their response to the previous task (for review purposes only)*.

* pdf

Task 3 Design

(Planned approach, selecting techniques, Realise outcome, review outcome) **(6hrs) (24 marks)**

Tasks	AO1	AO2a	AO2b	AO3	AO5a	AO5b	Total
3. Design	3	6	6	3	3	3	24

Evidence Required:

- The submission for this task will typically be two A3 drawings and two A4 sides of supporting calculations and reflection notes (using a CAD package or by hand).

Task-specific requirements and considerations

- Candidates should **not have** access to the Internet
- Candidates to have access to copies of their responses to the previous tasks (for review purposes only)*.

*pdf

Task 4 Present

(Plan approach, select techniques/resources, Realise outcome, review outcome) **(2.5 hrs) (24 marks)**
(conveys information from a speaker to an audience)

Tasks	AO1	AO2a	AO2b	AO3	AO5a	AO5b	Total
4. Present	3	6	6	3	3	3	24

Evidence Required:

- Presentation materials – e.g. slides, handouts etc
- Video recording of presentation.
- Observation evidence

Task-specific requirements and considerations (please refer to centre guidance for full explanation)

- The candidate is allocated a **two-hour session in order to create the presentation** and allocated **half an hour to deliver and answer questions.**
- Candidates must use digital technology to present their findings. Candidates can choose the format or program they want to use for their presentation (e.g. PowerPoint etc).
- Candidates will have access to copies of their responses to the previous tasks (for review purposes only) as well as any presentation materials/notes (e.g. PowerPoint slides).
- All candidates must be asked three questions following their presentation (probing or clarification questions not included). The nature of the questions should relate to the content of their presentation.

Task 4 Present (continue)

(Plan approach, select techniques/resources, Realise outcome, review outcome) **(2.5 hrs) (24 marks)**
(conveys information from a speaker to an audience)

Task-specific requirements and considerations (please refer to centre guidance for full explanation)

- The presentation should be presented by candidates individually (not in a group).
- I would recommend more than one member of staff.
- Given within the presentation one qualified member of staff will need to assume the role of ‘the audience’ and will need to ask three questions that are contextualised to the candidates’ presentation.
- The question asker will need to note the questions asked and the candidates’ responses (backup).
- It’s recommended a second member of staff is available to support with the recording of the assessment, ensuring video equipment is working and the visual and sound is being captured

Example breakdown of AOs and marks for Task 1

	Band 1 descriptor			Band 2 descriptor			Band 3 descriptor			AOs (marks)	Total marks available
Task 1	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**AO1 (3)** **AO2a (3)** **AO3 (3)**	**9**
Research **(Planning, core knowledge, selecting techniques and resource)**	**Indicative Content – Sample version** **AO1** – The candidate has planned their research. This may be evidenced in the coherence of structure of the research notes, and in the sources/resources listed. The consistency of coverage of research requirements as detailed in the technical brief in relation to required aspects of the task. **AO2a** – Evidence of the candidate researching required elements and refining their approach to the problem and considering the jig requirements meet the specification given. Candidates provided details on research of materials, standard parts and relevant specifications. Research on responses to similar problems, similar solutions or ones that relate the provided brief. Detail of health and safety considerations and risk assessment requirements. **AO3** – The candidate's selected research techniques and resources to meet the brief and their relevance. The matching of resources and information to the various parts of the research requirement – use of specifications, diagrams, downloads etc to match the determinations that must be made.										

EMPC ESP Sample Marking Grid Page 9

Example breakdown of AOs and marks for Task 1

	Band 1 descriptor	Band 2 descriptor	Band 3 descriptor	AOs (marks)	Total marks available
	Marking descriptors – All versions				
	Some evidence of a planned approach to research. (AO1)	Approach to research and collation of information shows planning and consistency. (AO1)	Brief requirements are considered consistently throughout the research and information collation – clear evidence of methodical and thorough approach to research and information gathering. (AO1)		
	Some elements of core knowledge referenced but focus may be imbalanced and more focused on one area than another. (AO2a)	Core knowledge applied in most areas of the brief requirements. (AO2a)	Core knowledge applied in all areas of the brief requirements. (AO2a)		
	Research techniques and resources clear as part of evidence submission. (AO3)	Evidence of a range of techniques and resources used and referenced, with different source types considered. (AO3)	Evidence of comprehensive research techniques, use of resources, and full range of sources. All sources fully detailed and presented fully and consistently. (AO3)		

EMPC ESP Sample Marking Grid Page 9

Example breakdown of AOs and marks for Task 1

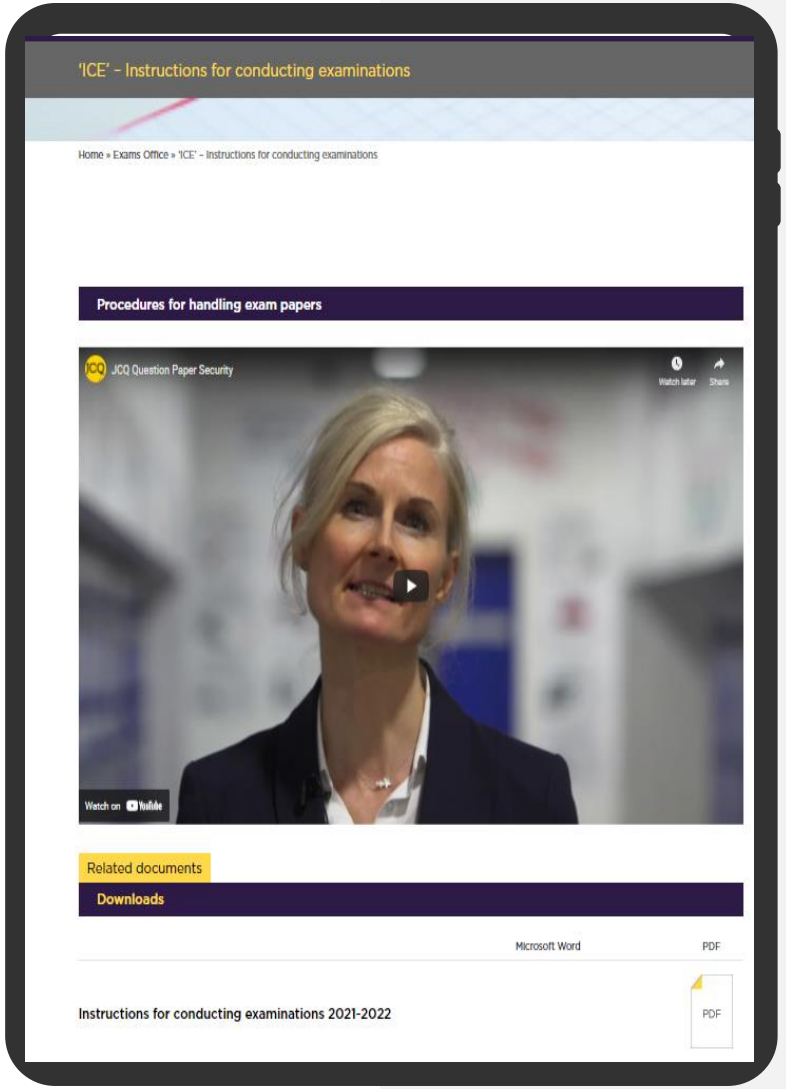
	Band 1 descriptor		Band 2 descriptor		Band 3 descriptor		AOs (marks)	Total marks available
Task 1	**1**	**2**	**3**	**4**	**5**	**6**	**AO2b (6)**	**6**
Research (Core skills)	**AO2b** – The candidate's demonstration of judgement and reasoning in relation to the review of the requirements from the brief and the content within the notes. Details of research on technology solutions for the drill jig in order to meet the design specification supplied by the client and support the order of the bespoke shoulder screws. The candidate's effectiveness of communication of research conducted to meet requirements outlined in the brief – clarity and conciseness of response. Expression of ideas in associated research analysis and level to which they are supported e.g. through inclusion of images and level of referencing to sources. Evidence of planning in research in terms of consistency and balance of response (time spent consistently on researching different elements).							
	Marking descriptors – All versions							
	Some basic elements of core skills drawn on and evidenced within task response - limited use of skills in relation to brief requirements. (AO2b)		A range of core skills applied and evidenced consistently in task response in relation to different elements of the project brief. (AO2b)		Core skills applied consistently and comprehensively throughout task completion with - full range of core skills evidenced. (AO2b)			

EMPC ESP Sample Marking Grid Page 9

Security of Assessments

- There is specific guidance within the centre and candidate guidance pack relating to this
- Candidate evidence must be kept secure to prevent unsupervised access by the candidate or others
- Where evidence is produced over a number of sessions, the tutor must ensure candidates and others cannot access the evidence without supervision
- This might include storing written work or artefacts in locked cupboards and collecting memory sticks of evidence produced electronically at the end of each session.

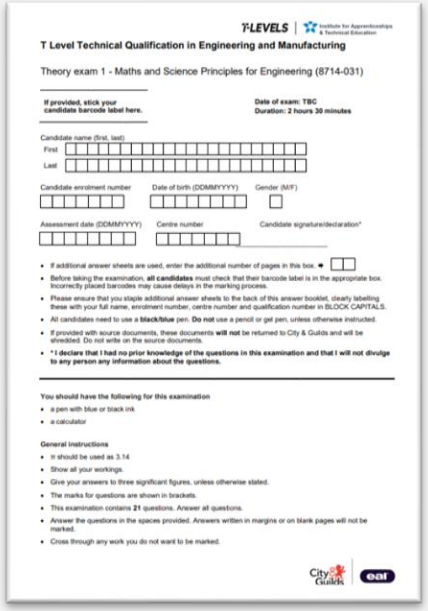
https://www.jcq.org.uk/exams-office/ice---instructions-for-conducting-examinations/



https://youtu.be/q-2rFfsf5Iw

How the ESP is marked and graded

The ESP is externally marked by C&G using evidence you will need to upload.

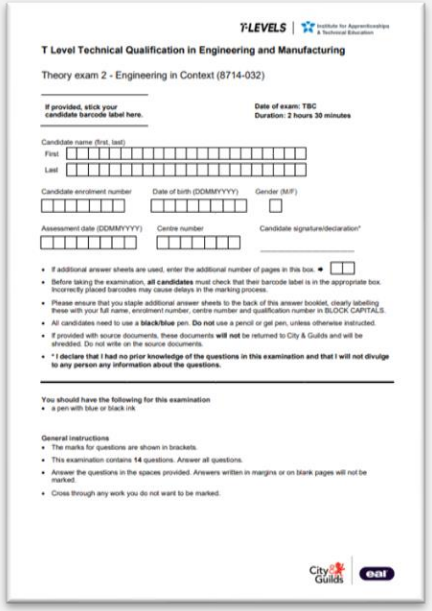


Exam paper 1

raw marks

(actual marks)

+



Exam paper 2

raw marks

are combined and

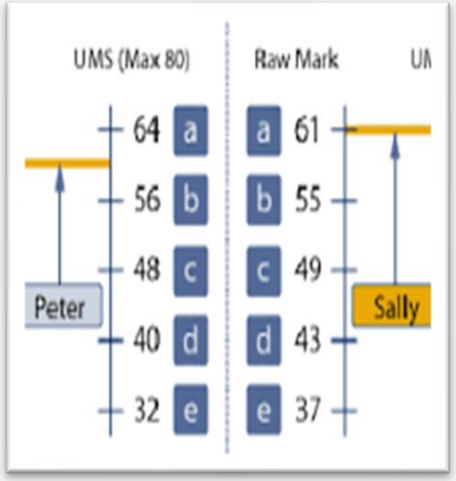
Converted using a

uniform mark scale (UMS)

+

ESP raw mark is converted to a UMS

=



Final core grade of A*-U generated

To summarise - Evidence required by C&G

Task	Evidence expected for marking
1 - Research	Research notes (typically 1500 words), list of references/sources
2 - Report	Written report (typically 2000 words)
3 - Design	The submission for this task will typically be two A3 drawings and two A4 sides of supporting calculations and reflection notes. CAD drawings or hand drawn
4 - Present	Presentation materials including presentation file and any handouts, Video recording of presentation Observation record

Key dates:

- The ESP will be available to centres on the 6th March. You will be notified how you can access this. All four (4) tasks will be released to you at the same time to help you plan your assessments. Please refer to the assessment guidance on our Resource Hub Page - ESP Guidance

- The ESP is administered to learners during the assessment window which opens on 13th March and closes on 31st March 2023.

Ensure core skills from the handbook are embedded in delivery:

EMPC core skills (page 19 onwards in the specification).

- Core skill A (**MPC-CSA**) Analyse and interpret an Employer Set Brief
- Core skill B (**MPC-CSB**) Plan and prepare suitable responses to the brief
- Core skill C (**MPC-CSC**) Develop response/s using key skills and processes
- Core skill D (**MPC-CSD**) Evaluate and quality assure processes and outcomes.
- Core skill E (**MPC-CSE**) Communicate and present outcomes and evidence

11.2 **Types and applications** of Standard Operating Procedures (SOPs) and their **purposes**.

Range:

Types and applications – Manufacturing, quality, maintenance.
Purposes – Standardisation of activity, customer satisfaction, safety, training.

What do learners need to learn?	Skills
The typical format and content of SOPs. How SOPs are used in the different applications. The reasons for using SOPs (consistency, conformance to standards). How SOPs are produced, implemented and evaluated.	MPC-CSE, EC1, EC3

The skills column in the handbook identifies where these skills can be developed

How we support you

Updates/Topics/Networks

Blended approach to communication

Provider networks and events

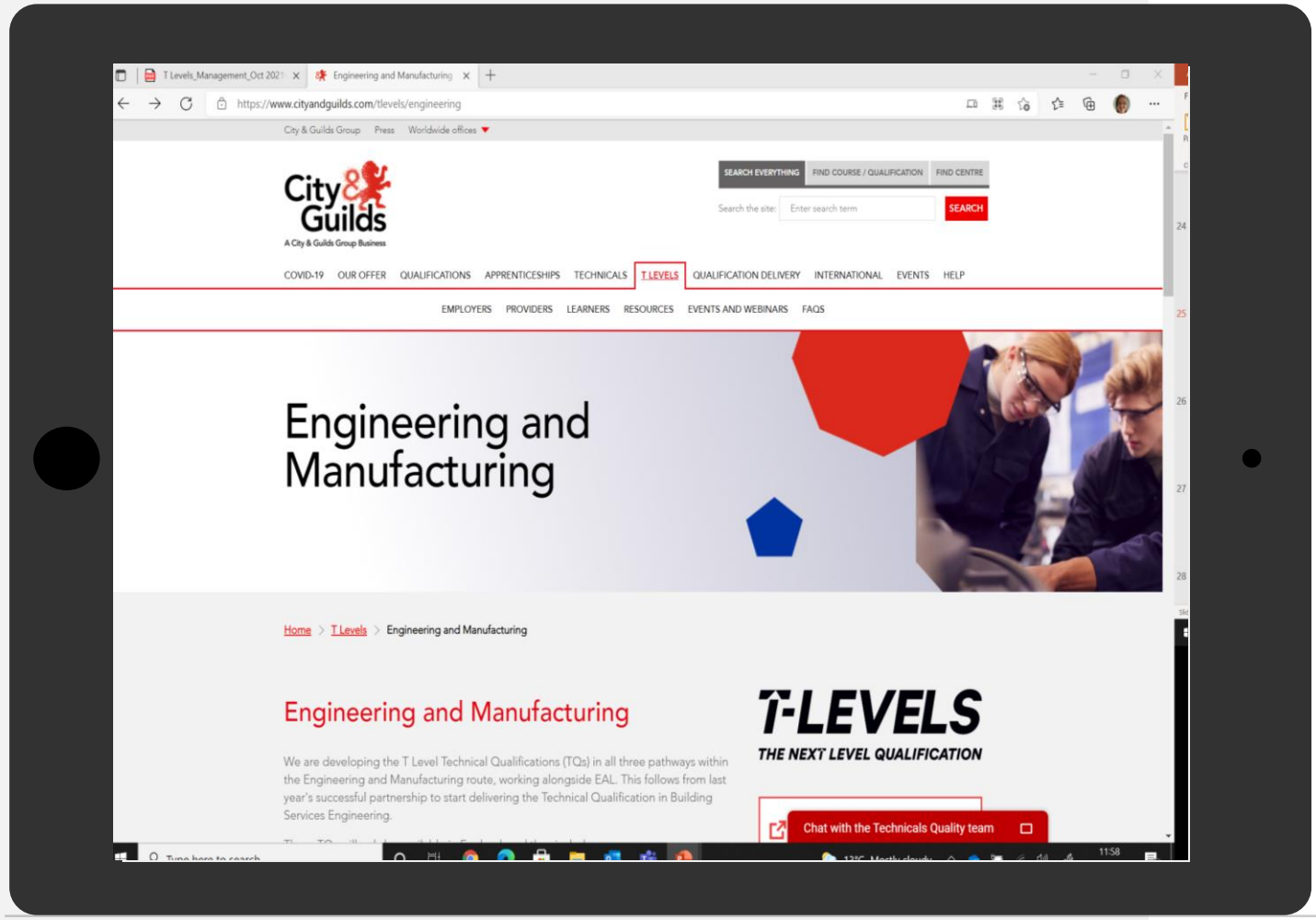
e-bulletin content and email updates

Website

Support and Guidance

Ready to support eligible providers and stakeholder engagement

- Timeline
- Provider focus groups
- Employer Industry Boards
- e-bulletins
- Specification
- Resource Hub https://www.cityandguilds.com/tlevels/resources
- Learner flyer t-levels-learner-flyer-engineering-and-manufacturing
- Dedicated Technical Advisors



https://www.cityandguilds.com/tlevels/providers

Events & Webinars

- Face-to-face events
- Events, networks and webinars are located on our T Level Home page here under the accordion Engineering & Manufacturing. Here you will also find copies of the slide decks presented in the events, networks and webinars.
- Recorded webinars on our dedicated Engineering Go To Webinar Channel here.
- For the most up to date information regarding future events please register for our T Level e-bulleting at the bottom of this webpage, here.

Next Event:

T Level in delivery, preparing for core assessment face to face network London - City and Guilds London Office

Tuesday, 7 March 2023 at 10:00 GMT

https://www.eventbrite.co.uk/e/t-level-in-delivery-preparing-for-core-assessment-face-to-face-network-tickets-503234055607

T Level preparation for core assessment face to face network Wakefield

City and Guilds Wakefield Office

Wednesday, 8 March 2023 at 10:00 GMT

https://www.eventbrite.co.uk/e/t-level-preparation-for-core-assessment-face-to-face-network-wakefield-tickets-503261758467

Websites to Support Providers

T Level Industry Placement Delivery Guidance
T Level industry placements delivery guidance - GOV.UK (www.gov.uk)

Introduction to T levels
T levels - GOV.UK (www.gov.uk)

How T Levels are funded
How T Levels are funded - GOV.UK (www.gov.uk)

T Levels capital fund
T Levels capital fund - GOV.UK (www.gov.uk)

T Levels resources for teachers and careers advisers
T Levels resources for teachers and careers advisers - GOV.UK (www.gov.uk)

T Levels: next steps for providers
T Levels: next steps for providers - GOV.UK (www.gov.uk)

Supporting with delivering T Levels
Support with delivering T Levels

T Level Transition Programme Framework for 2022 – 2023
T Level Transition Programme Framework for Delivery 2022 to 2023 - GOV.UK (www.gov.uk)

ETF Foundation – T Levels
T Level Professional Development - Education & Training Foundation (et-foundation.co.uk)

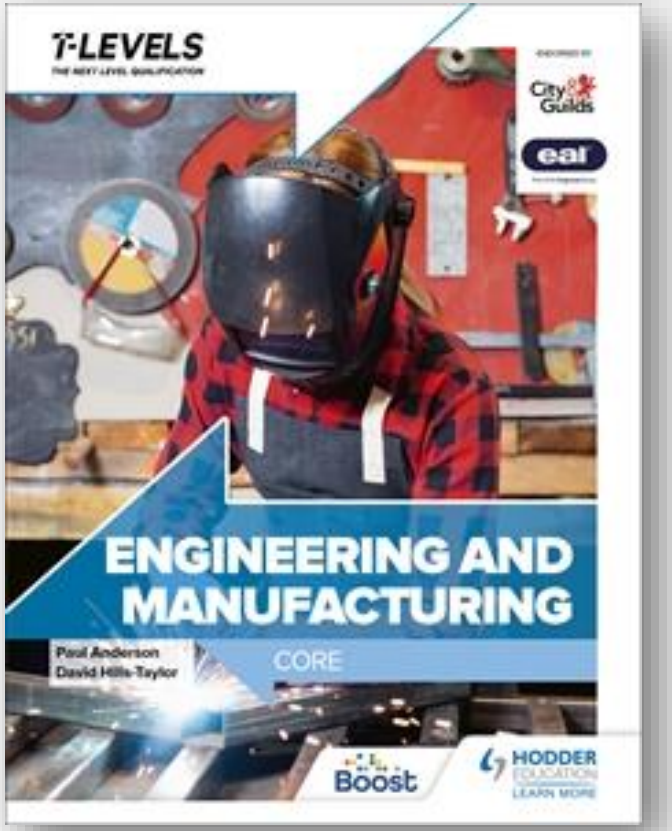
COMING SOON!

Engineering and Manufacturing T Level: Core Textbook

Tackle the core component of your Engineering and Manufacturing T-Level head on with this comprehensive textbook published in association with City & Guilds.

- Complete coverage of the T Level's core component
- Prepares students for core exams and ESP
- Publishing June 2023
- Available in print and digital formats
- Print: 9781398360921 // £34
- Boost eBook: 9781398361058// £11 per year
- From expert authors Paul Anderson and David Hills-Taylor

Contact Gemma Simpson to receive an advance sample chapter:
gemma.Simpson@hoddereducation.co.uk



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T Level Associate Vacancies

Would you like to be involved with supporting the delivery of T-Levels?

- **Principal Moderators / Moderators**

Ensure a standardised and consistent approach to quality assurance, moderation, feedback and processes

- **Technical Qualification Associates (TQAs)**

Review Eligible Provider approval applications, including supplementary evidence and carry out approval and support activities.

- **Chief/Principal Examiners**

Produce and submit assessment materials and participate in all stages of the production process until sign off.

- **Marking Examiners**

Mark candidates' scripts/evidence in accordance with the agreed marking scheme/criteria within the agreed timescale

For further information, please contact Samantha.Ashman@cityandguilds.com or visit our website on the attached link: Associate Vacancies | City & Guilds Group Careers

T-LEVELS | Institute for Apprenticeships & Technical Education

T-LEVELS

Questions?
Thank you for attending

February 2023

'T LEVELS' is a registered trademark of the Department for Education.
'T Level' is a registered trademark of the Institute for Apprenticeships and Technical Education.

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