Engineering and Manufacturing

Q&A Sessions

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T Level Core – key points from FAQ and examiner reports

ESP

- Task 1 – candidates are allowed internet
- Use of AI is allowed but must be documented, but candidates who heavily rely upon AI information will not be able to achieve higher grade marks.
- candidates need to show interpretation and analysis of information from multiple sources to achieve marks.

Task 4 ESP – Presentation

- Do not use a teams call as the recording.
- Body language and interaction between student and presentation method need to be shown.
- Use in person presentation recording.
- Evaluation at final stage of presentation is critical and commonly missed by candidates

Design and Development

- Any CAD software can be used to produce drawings.
- Submitted drawings must be 2D with details of design. 3D model alone is not sufficient and does not gain extra points.

All – Make sure document format uploaded for evidence is in PDF or word format. Not a specialist software file like a CAD file. Incorrect file format will cause delays in marking and potentially results.

T Level OS – key points from FAQ and examiner reports

- Resource list comes put next week.
- Double check quantity of resources for candidate numbers.
- **MIR** – there is a peer review which means at least 3 candidate need to be on practical kit at the same time under exam conditions, so plan for this.
- **MIR** – Change to task 2 and task 4 – Comms have been sent to customers but in case you have missed it.
- Demonstration of functionality of the system/machine etc has moved from Task 4 into Task 2.
- **D&D** – 3D printing changes to guidelines. These will be in the guidance next week but just to draw attention to it: Time to 3D print is no longer included in the assessment time, but do not 3D print the whole prototype as the candidate will not be able to meet the full range of marks.
- Design and build prototype must be based upon materials given in the resource list, eg, not lego, cardboard, wood, sticky tape.

All – Make sure document format uploaded for evidence is in PDF or word format. Not a specialist software file like a CAD file. Incorrect file format will cause delays in marking and potentially results.

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 visit our website:
[Associate Vacancies | City & Guilds Careers]

Questions?

Any questions that we cannot answer in this session need to be sent by you, the customer to:

technicals.quality@cityandguilds.com

Preparing for Delivery

- Qualification page: Engineering and Manufacturing - T Levels| City & Guilds (cityandguilds.com)
- Resource Hub: Resource Hub - T Levels | City & Guilds (cityandguilds.com)
- All events will be published on the T Levels Events & Webinars page: Events and webinars - T Levels | City & Guilds (cityandguilds.com)
- You can also sign up to our T Level newsletter to get up to date information about events: T Levels for Providers - T Levels | City & Guilds (cityandguilds.com)

Engineering and Manufacturing T Level programme composition

T Level courses include the following compulsory elements:

A Technical Qualification, which includes:

- **core theory, concepts and skills for an industry area**
- **specialist skills and knowledge for an occupation or career**
- **an industry placement with an employer**

The T Level is a full-time two-year programme.

UCAS tariff points will be allocated and will be equivalent in value to three A Levels.

Students will also be required to work towards the attainment of maths and English if they have not already achieved grade 4 at GCSE, as they do on other 16 to 19 programmes.

Core
680 GLH / 1000 TQT

Graded	A* - E
Paper 1	Maths & Science
Paper 2	Engineering Concepts
ESP	Employer Set Project

Covers concepts and theories including core skills.

Assessment:
External set and marked exams and an employer set project.

Occupational specialism
680 GLH / 1000 TQT

Graded Pass/merit/distinction
Based on occupational maps
Covers practical skills and knowledge in a specialist occupational area.

Assessment:
Synoptic assignment covering practical skills and applied knowledge.

Industry Placement
315-420 hours
Min 45-60 days

Maths and English
GCSE or Functional Skills Level 2

(Continue to study as part of the condition of funding)

Tutorial- Employability enrichment, and pastoral hours

Technical Qualification overview for Engineering:

Engineering Core Component (8730)

Pathways:

Design & Development for Engineering and Manufacturing (8714)

Maintenance, Installation & Repair for Engineering and Manufacturing (8712)

Engineering, Manufacturing, Processing and Control (8713)

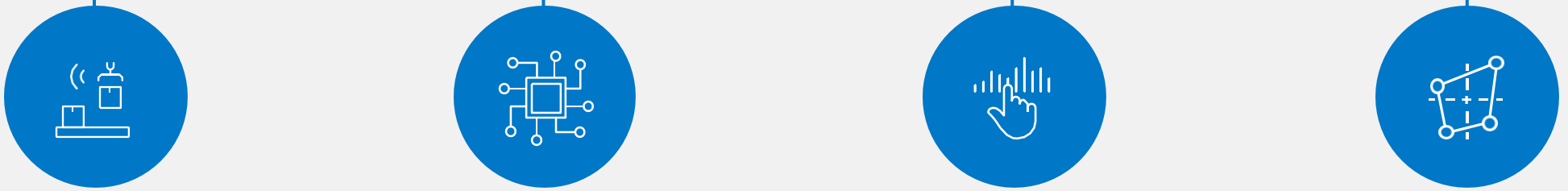
Learners must complete:

- Engineering Core
- 1 Occupational specialism within a pathway

Route: Engineering and Manufacturing

PATHWAY -Design and Development for Engineering & Manufacturing (8730 / 8714)

Occupational Specialisms



Mechanical Engineering

Electrical & Electronic Engineering

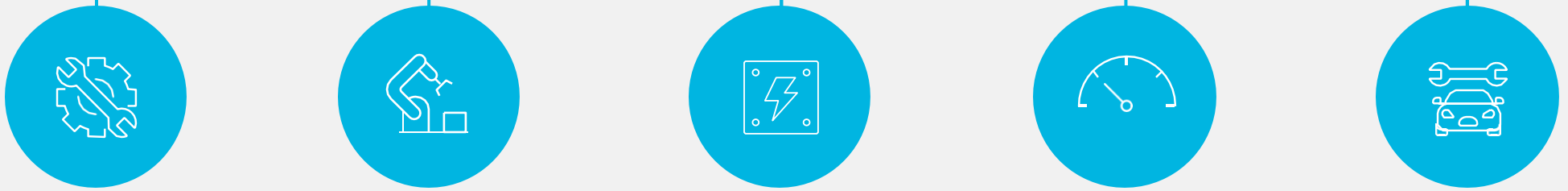
Control & Instrumentation Engineering

Structural Engineering

Route: Engineering and Manufacturing

PATHWAY - Maintenance, Installation and Repair for Engineering and Manufacturing (8730 / 8712)

Occupational Specialisms



- Mechanical
- Mechatronic
- Electrical & Electronic
- Control & Instrumentation
- Light & Electric Vehicle

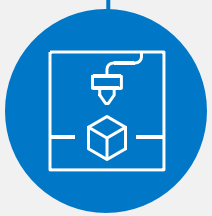
Route: Engineering and Manufacturing

PATHWAY – Engineering, Manufacturing, Processing and Control (8730/8713)

Occupational Specialisms

Fitting & Assembly Technologies

Machining & Tool Making Technologies

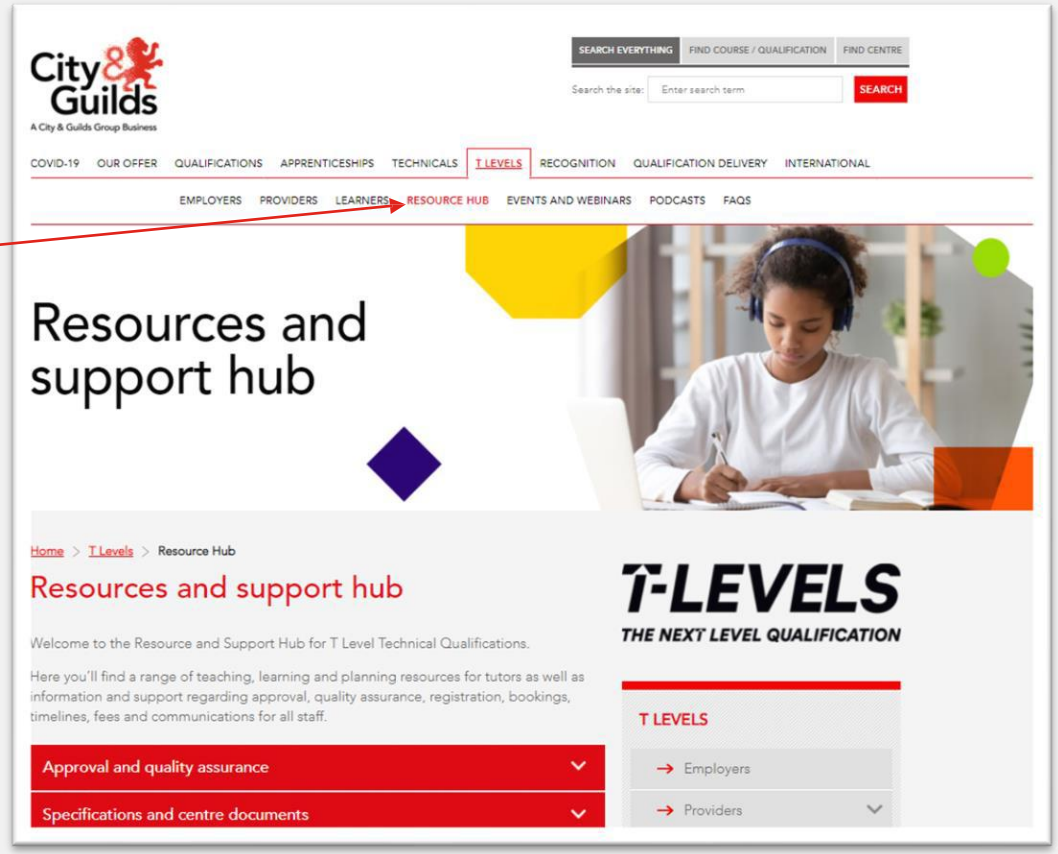


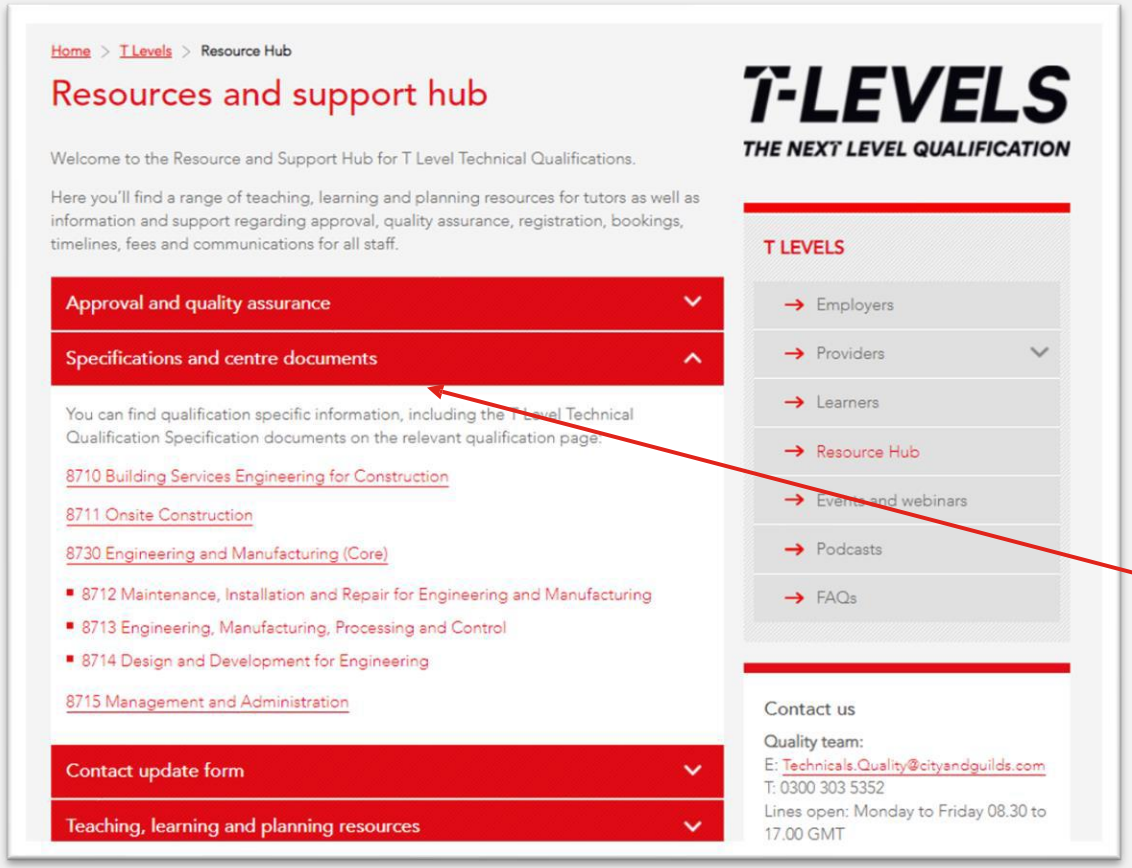
Composites Manufacturing Technologies

Fabrication & Welding Technologies

Website Navigation

Or navigate through the C&G T Level Resource Hub webpage





Then select specifications and centre documents

The specification, sample assessments and past papers are available on the C&G website.

[Engineering and Manufacturing - T Levels| City & Guilds (cityandguilds.com)]

Choose pathway to access detailed info:

T Level Technical Qualification in Engineering and Manufacturing (Core) (8730)

INFORMATION | DOCUMENTS

Last Updated: 21 Mar 2024

The **T Level Technical Qualification in Engineering and Manufacturing (Core)** is a mandatory component required for completion of any of the three T Level Technical Qualifications in Engineering and Manufacturing.

Completion of the Core component is a requirement for learners completing a full T Level Technical Qualification in

- Maintenance, Installation and Repair for Engineering Manufacturing (8712)
- Engineering, Manufacturing, Processing and Control (8713)
- Design and Development for Engineering and Manufacturing (8714).
- Full details of each of these Technical qualifications and the associated assessment documentation for the occupational specialisms can be found on the individual web pages using the qualification references highlighted above.

T Level Technical Qualification in Design and Development for Engineering and Manufacturing (8714)

INFORMATION | DOCUMENTS

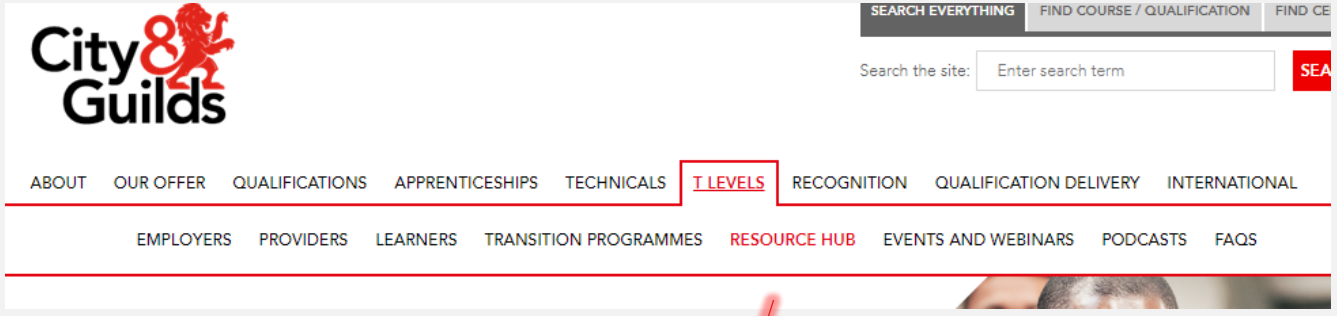
Assessment Materials

- 2023 Summer
- 2023 Autumn
- 2024 Summer
- Employer Set Project Exemplars
- Exam Guide and Support
- Sample Core Exams
- Sample Employer Set Project

Centre Documents

- Design and Development for Engineering and Manufacturing 8714
- Engineering Manufacturing Processing and Control 8713
- Maintenance Installation and Repair for Engineering Manufacturing 8712

Key dates – Where to find them



Engineering and Manufacturing

Maintenance, Installation and Repair 2023-24 Key Dates (PDF)

Maintenance, Installation and Repair 2024-25 Key Dates (PDF)

Maintenance, Installation and Repair 2025-26 Key Dates (PDF)

Manufacturing, Processing and Control 2023-24 Key Dates (PDF)

Manufacturing, Processing and Control 2024-25 Key Dates (PDF)

Manufacturing, Processing and Control 2025-26 Key Dates (PDF)

Design and Development 2023-24 Key Dates (PDF)

Design and Development 2024-25 Key Dates (PDF)

Design and Development 2025-26 Key Dates (PDF)

Engineering and Manufacturing annual calendar (PDF)

Engineering learner leaflet (PDF)

Engineering and Manufacturing HEI Information Factsheet (PDF)

Engineering and Manufacturing high level presentation (PDF)

Key dates – Where to find them

Autumn Series 2024

Core Assessments

- Employer-Set Project
- Exam Paper 1 and Paper 2

Employer-Set Project and Core Exam Paper 1 and 2 Autumn 2024 assessment entry (booking)	
Standard assessment entry period	1 September 2024 to 30 September 2024
Late assessment entry period	1 October 2024 to 15 October 2024
Very late assessment entry period	16 October 2024 to 27 October 2024

Core Assessments Autumn 2024 assessment dates/windows	
Employer-Set Project (ESP) materials release	28 October 2024
Employer-Set Project (ESP) delivery window	4 November 2024 to 22 November 2024
Employer-Set Project (ESP) evidence upload deadline	22 November 2024
Exam Paper 1	26 November 2024 9:30-12:00*
Exam Paper 2	3 December 2024 9:30-12:00*
Special consideration requests deadline	Five working days after the exam/submission date

Occupational Specialism Summer 2025 assessment dates/windows	
Release of live Occupational Specialism resource list	17 February 2025
Release of live Occupational Specialism assessment materials	10 March 2025
Occupational Specialism window	24 March 2025 to 16 May 2025
Occupational Specialism marks and applicable evidence upload deadline	16 May 2025

Please note all occupational specialisms work to the same dates.

Core Assessments Summer 2025 assessment dates/windows	
Employer-Set Project (ESP) materials release	31 March 2025
Employer-Set Project (ESP) delivery window	22 April 2025 to 13 May 2025
Employer-Set Project (ESP) evidence upload deadline	13 May 2025
Exam Paper 1	3 June 2025 9:30-12:00*
Exam Paper 2	10 June 2025 9:30-12:00*
Special consideration requests deadline	Five working days after the exam/submission date

Industry Placement approaches

Industry Placement

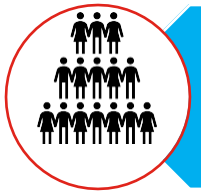
Every T Level includes an industry placement with an employer focused on developing the practical and technical skills required for the occupation. These will last a minimum of 315 hours (approximately 45 days) but can last longer.

Providers will ensure learners have an industry placement and will support employers offering industry placements.

This will include assistance with the necessary paperwork, a careful planning process and support with designing the industry placement.

The Education and Skills Funding Agency (ESFA) and National Apprenticeship Service (part of ESFA) are working with employers and providers on industry placements.

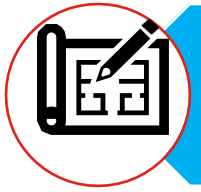
WHAT ARE INDUSTRY PLACEMENTS?



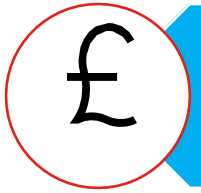
Time spent by a 16–19-year-old T Level student, learning and working in an organisation.

Real industry experience- learning and working in a business external to education provider, making meaningful contributions to an organisation

Minimum of 315 hours (approx. 45 working days) completed via various models; **day release**, **block** or **mixed**- whatever suits the employer and the school or college over the 2-year qualification.



Occupationally-specific – developing practical and technical skills in the T Level that the student is taking.



No legal requirement or expectation for industry placements students to be paid – but employers can choose to if they wish.

INDUSTRY PLACEMENT DELIVERY FLEXIBILITIES

AFFECTS	FLEXIBILITY	DETAILS
Digital and Engineering	**Route Level Placements**	Placement can develops the essential and transferable knowledge and skills studied at route level (e.g. relevant to any Digital pathways), as opposed to those only relevant to their particular specialism.
All Routes	**Multiple Employers**	Placement can be shared between two employers but must have single set of learning objectives. Allows students to experience their specialism in a variety of circumstances e.g. large employer and SME
All Routes	**Work Taster Activities**	Up to a maximum of 35 hours can be counted towards a student's total number of placement hours if relevant to the pathway e.g. employer visits, shadowing,
All Routes	**Relevant Part Time Work**	Can be counted towards the required hours of placement, as long as the job is occupationally related to the students' chosen specialism at Level 3, appropriate learning objectives are set and worked towards, and it takes place at an environment away from the provider setting.
Construction and Engineering	**Use of Skills Hubs**	Can begin placement within an established skills hub or employer's training centre for a maximum of 105 hours. These skills hubs/training centres must be established and/or led, managed, and supervised by external employers. For example, the CITB's Construction Skills Hubs.

Useful tips for providers to look for within a placement

Does the employer and placement……

- offer a safe working environment
- incorporate an induction
- offer relevant tasks and projects for students that will help them learn the knowledge and skills
- offer appropriate equipment and resources
- provide a mentor or supervisor which can support the student
- ensure a review procedure is in place (for both the learner and the provider)
- If successful can this placement be used again?

Update to Work placement - From January 2025 onwards

Updated Industry Placement Delivery Approaches – T Levels support for schools and colleges

, the below changes to the industry placement delivery approaches will apply. These updated approaches should only be used when they align with employer or sector practice and meet student needs - our expectation is that students should continue to work directly with an external employer, face-to-face in a real workplace setting for the majority of their placement. Providers will continue to be responsible for ensuring a high-quality placement experience for individual students.

1) Up to 20% of the placement can be remote in all T Level Routes (and up to 50% for Digital T Levels)

To reflect employer working practice, students will be able to carry out up to 20% of their placement remotely. For T Levels in the Digital route, we have extended the proportion of placement hours that can be done remotely from 20%, up to a maximum of 50% of hours. 'Remote' is where a student is not working face-to-face with an employer and is working away from the traditional employer environment. Remote work should ideally be done on the provider site, unless the provider is confident the student has an appropriate home or alternative environment in which to work.

2) Placements can take place at route level as well as pathway level

To give students a broader range of experiences, a placement can be undertaken across the broader occupational group their T Level sits within (route level), not just their specific T Level subject (pathway) or occupational specialism.

3) Small group projects and simulated activities in skills hub and training centres can take place on the provider site

To make better use of provider facilities, students will be able to undertake up to one third of their placement hours on the provider site developing technical skills and undertaking meaningful tasks - where this is under the direct supervision of their industry placement employer. This should be particularly helpful where an employer already uses the provider site to train existing staff; cannot have students onsite for health and safety reasons, or to allow students to work with a broader range of employers that do not have the facilities to accommodate students (for example, SMEs or employers without an office)

Curriculum Planning

Discussions – Sharing good practice

In your groups discuss the following:

- How many hours per week you will be delivering the following in Year 1:
  - Common Core
  - Core Pathway
  - Occupational Specialism
- How many hours of practical are you planning? Year 1 and year 2
- How many EEP (enrichment, employability and pastoral) hours are planned?
- How will you timetable the Industry Placement?

- How have you designed your curriculum e.g. using performance outcomes, grouping topics together etc.
- What have been the challenges of timetabling the T Level?

You will have approximately 30 mins in your groups

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)

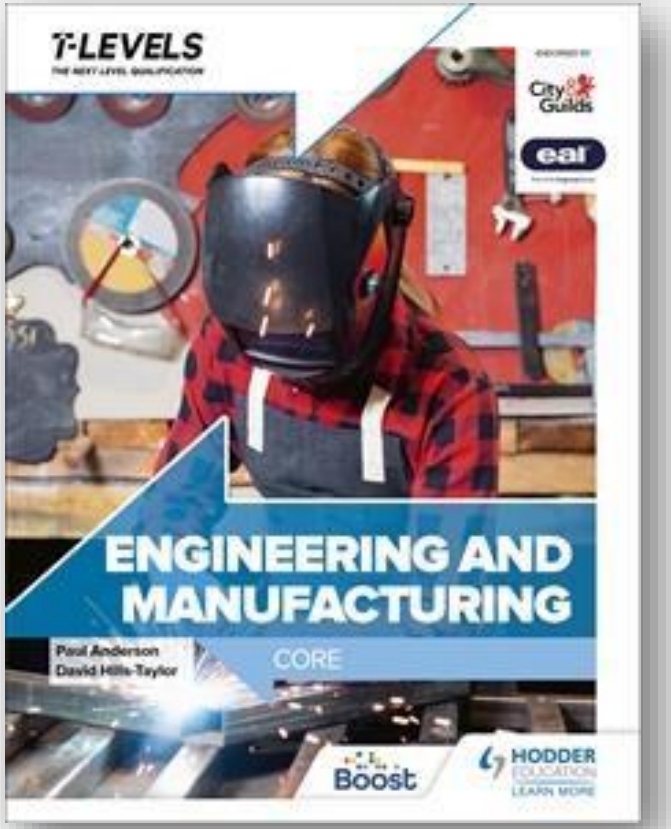
Supporting with delivering T Levels
Support with delivering T Levels

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

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 / EAL.

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



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Visit www.hoddereducation.co.uk/t-levels


ASSESSMENT

Core Content Examination

Paper 1 –
Maths and Science Principles for Engineering (6 Elements) (2hrs 30mins)

Paper 2 –
Engineering in Context
(11 Elements) (2hrs 30mins)

17 Elements in total to make up the core

Assessment	Overall contribution
Core examination 1	35%
Core examination 2	35%
Employer-set project	30%

	Element – Paper 1	GLH
4	Essential mathematics for engineering and manufacturing	90
5	Essential science for engineering and manufacturing	90
6	Materials and their properties	60
7	Mechanical principles	35
8	Electrical and electronic principles	35
9	Mechatronics	30

	Element – Paper 2	GLH
1	Working within the engineering and manufacturing sectors	30
2	Engineering and manufacturing past, present, and future	30
3	Engineering representations	40
10	Engineering and manufacturing control systems	30
11	Quality management	30
12	Health and safety principles and coverage	60
13	Business, commercial and financial awareness	30
14	Professional responsibilities, attitudes, and behaviours	15
15	Stock and asset management	15
16	Continuous improvement	30
17	Project and programme management	30

Engineering Core Theory Papers

The two exam papers have each been split into two sections which will be made up of different question types including short answer questions, structured questions, and extended response questions.

Both core exams will follow the same structure but each core exam covers different technical content. In both papers the level of difficulty will increase through the papers with lower demand questions at the beginning of the question paper to higher demand questions at the end of the question paper.

Paper 1 - Maths and Science Principles for Engineering (6 Elements) (2hrs 30mins)

Part A (70%) made up of 67 marks with 18 short and medium questions of a low tariff and medium tariff value. These short answer questions which target recall of knowledge, demonstration of understanding and application of knowledge and understanding.

Part B (30%) made up of 33 marks and includes 3 extended response questions which target application of knowledge and understanding and analysis and evaluation of information and issues.

	Element – Paper 1
4	Essential mathematics for engineering and manufacturing
5	Essential science for engineering and manufacturing
6	Materials and their properties
7	Mechanical principles
8	Electrical and electronic principles
9	Mechatronics

Engineering Core Theory Papers

The two exam papers have each been split into two sections which will be made up of different question types including short answer questions, structured questions, and extended response questions.

Both core exams will follow the same structure but each core exam covers different technical content. In both papers the level of difficulty will increase through the papers with lower demand questions at the beginning of the question paper to higher demand questions at the end of the question paper.

Paper 2 – Engineering in Context (11 Elements) (2hrs 30mins)

Part A (70%) made up of 67 marks with 11 short and medium questions of a low tariff and medium tariff value. These short answer questions which target recall of knowledge, demonstration of understanding and application of knowledge and understanding.

Part B (30%) made up of 33 marks and includes 3 extended response questions which target application of knowledge and understanding and analysis and evaluation of information and issues.

	Element – Paper 2
1	Working within the engineering and manufacturing sectors
2	Engineering and manufacturing past, present, and future
3	Engineering representations
10	Engineering and manufacturing control systems
11	Quality management
12	Health and safety principles and coverage
13	Business, commercial and financial awareness
14	Professional responsibilities, attitudes, and behaviours
15	Stock and asset management
16	Continuous improvement
17	Project and programme management

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 Design & Development the tasks are:

- Research
- Design
- Plan
- 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):

Design & Development core skills (page 16 onwards in the specification).

- Core Skill A (**DD-CSA**) Planning and preparation
- Core Skill B (**DD-CSB**) Communication
- Core Skill C (**DD-CSC**) Developing proposals and concepts
- Core Skill D (**DD-CSD**) Evaluation

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 D&D

Task		Conditions	Evidence produced	Evidence submitted?	Timings	Marks available
1	Research	Supervised/ controlled	Technical brief, research notes, list of references/sources	Yes	3 hours	15
2	Design	Supervised/ controlled	Sketches and drawings, calculations	Yes	8 hours	24
3	Plan	Supervised/ controlled	Programme of work, supporting statement	Yes	5 hours	18
4	Present	Supervised/ controlled	Presentation materials (slides, handouts, notes etc), video recording of observation	Yes	2.5 hours	24
				Total	18.5 hours	81
					Maths, English and digital skills*	9
					Total marks	90

*10% of the marks (i.e. 9 marks) allocated to maths, English and digital skills across all tasks.

- ***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.

To summarise - Evidence required

Task	Evidence expected for marking
1 - Research	Technical brief (typically 1500 words) , research notes, list of references/sources
2 - Design	Drawings evidence (annotated sketches and CAD drawings) will typically be four A3 size drawings. Supporting calculations will typically be two sides of A4. Notes detailing how the design meets the brief requirements will typically be 500 words.
3 - Plan	Programme of work (one side of A4), Supporting statement (1000 words.)
4 - Present	Presentation materials including presentation file and any handouts, Video recording of presentation Observation record

Recap:

- 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