T Level Technical Qualification in Design and Development for Engineering and Manufacturing

Employer-Set Project (8714-033)

Sample Centre Guidance

First teaching from September 2022

Version 2.0

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Version and date	Change detail	Section
2.0 February 2024	Expanded guidance to reflect that assessors should not develop templates, including CAD templates	Guidance and feedback (p12)

Introduction

The Employer-Set Project assessment is a project made up of a number of tasks, based on a real-life work-based problem. The assessment is designed to allow candidates to show how they can tackle problems using the Core knowledge and skills.

This approach to assessment emphasises to candidates the importance and applicability of the full range of their learning to industry practice.

The Employer-Set Project is based around a brief which provides information on an engineering design requirement and specific relevant details and resources. Candidates have to draw on their Core knowledge and skills and independently select the correct processes and approaches to take to provide a solution and the evidence specified in the project brief.

During the learning programme, it is expected that tutors will have taken the opportunity to set shorter, formative tasks that allow candidates to independently use the learning they have covered so far. Experience of drawing information together from across the Core will help prepare candidates so that they are familiar with the expectations of the Employer-Set Project.

Candidates should be made aware during learning of what the Assessment Objectives (AOs) are and how they are implemented in marking the Employer-Set Project, so that they will understand the level of performance that will achieve high marks. Details of the AOs can be found in the qualification specification document.

Candidates should not be entered for the assessment until they have covered all the knowledge and skills covered in the Core content of the qualification, so that they are in a position to complete the Employer-Set Project assessment successfully.

Task schedule summary

The tasks within the project are designed to be scheduled and taken in order, due to the dependency of evidence being generated in one task being used by candidates in the next. For example, 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.

The tasks are issued separately to candidates but are able to retain the brief and scenario throughout the duration of the assessment time. Candidates are not permitted to return to tasks after they have been completed within the assessment time.

Candidates should be provided with 30 minutes of non-assessed time at the start of the first assessment session to read and review the brief, before being provided the first task.

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.

Should the candidate make an error that is further compounded through the inter-dependent nature of the tasks and carry through that error, the marker would penalise the candidate only once. Candidates can use evaluation within later task responses to address issues they have identified.

Note on timings

- Task 2 – The session may be split into two sessions to aid delivery, with the first session being six hours and the subsequent session the remaining two hours. Sessions must be timetabled over consecutive days.
- Task 4 – The candidate is allocated a two-hour session in order to create the presentation and allocated half an hour to deliver and answer questions.

Compliance with timings

The timings provided within the project **must** be adhered to. They refer to assessment time, not any additional setting up the centre needs to carry out to create an appropriate assessment environment. It is the centre's responsibility to plan sufficient assessment sessions, under appropriate conditions, within the Employer-Set Project assessment window, to allow candidates reasonable time to complete the assessment tasks.

Assessment windows and timetabling

Details of assessment windows and approach to timetabling is detailed within the associated TQ specification document. At the opening of the scheduled assessment window, centres will be able to securely access the assessment materials from the City & Guilds website. It is at this point that the project brief can be released to candidates at the start of their first controlled assessment session. At this point, the candidate guidance document can also be released to candidates.

Overview of document audience

	Approved audience	
Document	**Centre Staff**	**Candidate**
Project brief	✓	✓
Tasks Task 1 – Research Task 2 – Design Task 3 – Plan Task 4 – Present	✓	✓
Candidate guidance	✓	✓
Centre guidance	✓	✗
Marking grids	✓	✗
Appendix 1 – Declaration of authenticity	✓	✓

Internet access

Where internet access is allowed as part of a task (e.g. for research purposes) candidates must be advised that this is the case and reminded of the importance of submitting their own work and the seriousness of plagiarism, malpractice and collusion. Candidates should be advised that their browser history can be monitored, and they may be asked to provide a screenshot of their browser history following tasks for assessors to check.

Where candidates are allowed the use of computer equipment, but not the use of the internet for a task, equipment should be provided with internet capability disabled (e.g. Wi-Fi disabled, machine disconnected from network etc). In cases where this is not possible, as above, browser history must be checked following the task and a screenshot taken.

Task-specific requirements and considerations

General guidance

- The project brief and associated brief documents should be released to candidates at the start of the first scheduled task assessment. Candidates should be provided with 30 minutes of non-assessed time at the start of this session to read and review the brief, before being provided the first task. It must be made clear to candidates when the 30 minutes non-assessed reading and review time starts and ends.

- The individual tasks should be released to candidates at the start of each scheduled assessment session.
- Candidates are not permitted to bring any existing notes or materials completed prior to the assessment into any of the assessment sessions.
- Candidates are permitted to have copies of their final evidence from previous tasks in subsequent assessment sessions. The use of this evidence is solely to support candidates to refer to previous work. The purpose of only providing copies is to ensure that candidates are unable to rework any of their previous responses.
- When working under supervised conditions for longer sessions, breaks can be facilitated outside of the controlled conditions, ensuring the room is locked and all candidates have vacated once the break begins. All materials must be kept securely during the break.
- If the task completion runs over more than one session (see note on timings above), candidates must be reminded that no assessment information can be shared or discussed with other candidates.
- There are no templates or proformas for candidates for completion of the tasks within this version of the Employer-Set Project.
- Where evidence is created using software which has the potential for cloud based retrieval or sharing (e.g. CAD drawings) this feature should be disabled where possible (e.g. in software settings or through restriction of internet connection). Where not possible, candidates must be reminded that the evidence submitted for the tasks can only be generated within the scheduled assessment times and also of the implications of sharing or plagiarising content from cloud based content.

Task 1

- Candidates have been provided 30 minutes additional reading time at the start of Task 1 before they begin the project. This should be used to read the Project Brief and associated brief documentation and is not included in the assessment time allocated to Task 1. There is no opportunity for candidate questions or assessor answers during this initial 30 minutes – it is solely for reading.
- Candidates should have access to the Internet in order to conduct research. See note above on internet access.
- The technical brief will typically be 1500 words.

Task 2

- To aid deliverability and manageability of assessment, where necessary sessions can be split – for example where timetabling of an appropriate location for eight hours is not possible, where centres access to computer or software resources is limited, or where candidates are not available for eight consecutive hours (e.g. due to work placement commitments). In such cases the eight hours can be split into one session of 6 hours followed by a subsequent session of the remaining two hours. (The split of six hours first session, two hours first session must be adhered to and is designed to reduce the opportunity for candidate re-work across sessions). Sessions must be timetabled over consecutive days. All candidates are required to complete a ‘Declaration of authenticity’ along with their evidence submission. This declaration formally confirms that the assessment has been conducted within the conditions and assessment windows set by the awarding body.

- If the eight hour session is broken into two sessions, candidates work must be retained and held securely between sessions.
- Candidates should be reminded that their drawing submissions should include both initial sketches and fully realised designs.
- The drawings evidence 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.
- Candidates should **not** have internet access for this task. See note above on internet access.

Task 3

- Programme of work plans can be presented in an industry recognised format of the candidate's choice (typically one side of A4).
- The supporting statement will typically be 1000 words.
- Candidates should **not** have internet access for this task. See note above on internet access.

Task 4

- 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' presentations should be scheduled and timed to include time for questioning following the presentation within the 30 minutes allocation – as detailed in the task the time should typically be split with 20 minutes the presentation and ten minutes for responding to questions.
- It should be clear to candidates how much time of their presentation time has been used up, for example through the use of a timer, or clarification as they start that their session will end in 30 minutes time (e.g. indicating to candidates on a mutually visible clock and confirming the time the session will end). Where candidates are coming to the end of their allocated time and have not yet started the questioning element of the presentation or responded to questions, this should be indicated to them.
- It is important that centres consider the impact of cohort size on the scheduling of the presentation task. Larger cohorts may need to be split into two groups in order to accommodate presentations taking place shortly after the preparation session. Where necessary, presentation preparation or delivery sessions can be timetabled over a number of days. All candidates are required to complete a declaration of authenticity along with project evidence submission (be it physical i.e. written or drawn, or ephemeral i.e. presentation).
- 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. Questions should be posed from the perspective of the presentation audience as outlined in the task (e.g. client, end customer) and should allow candidates to expand upon and reinforce points covered in their presentation (Responses to questions generate evidence for 'AO2b communication') Questions must be contextualised to the individual candidate's presentation and should follow the following examples:
    - *What did you find the most challenging aspect of our brief?*
    - *What are your ideas on how we could keep costs down?*
    - *What do you feel are the biggest risks to ensuring the project duration requirements are met?*

- *If we needed to double our order, how would this impact your manufacturing proposal?*
    - *What is the most problematic part about the ongoing maintenance of the design?*
    - *How sustainable is the proposed design?*
- The assessor may indicate whether the question is being posed as if from a technical or non-technical perspective (as this may influence the detail, wording etc of the candidate's response).
- The presentation and questioning will be recorded; however it is recommended practice for a written record of assessor questions asked, and responses made, to be noted and provided alongside candidate's evidence for this task.
- Types of questions that candidates will face should be covered as part of course delivery. This will ensure learners are as best prepared as they can be when faced with this type of assessment.
- Video recordings of presentations must be in an appropriate format with audible sound levels, well-lit etc. as per the advice detailed in the observation evidence section.
- Candidates should have access to the Internet as they may wish to source images (or similar) to include in their presentation. See note above on internet access.

Observation evidence

The sections in each task:

- ***What you must submit on completion of this task*** and
- ***Additional evidence of your performance that must be captured for marking***

detail the typical evidence to be submitted for external marking.

Guidance documents on the marking process are available on the City & Guilds website. These provide further information on preparing for assessment, evidence gathering etc. and must be referred to when planning and carrying out assessment.

While technological methods which support the capturing or creating of evidence can be helpful, the final evidence must be converted to a suitable format which cannot be lost, deleted or amended after the end of the assessment period (e.g. screen prints, pdf files). Considerations around tracking authenticity and potential loss of material hosted on such platforms during assessment is the centre's responsibility.

Where the minimum requirements have **not been submitted as a result of the candidate not completing the evidence requirements of the tasks** or the **quality of candidate evidence is insufficient** to make a judgement, any judgment will be based on the evidence that *has* been submitted. **Where this is insufficient to provide a mark, a mark of zero may be given.**

Video evidence

The assessment materials for each Employer-Set Project identify the minimum candidate and assessor evidence requirements to support marking. Ephemeral evidence (e.g. areas of candidate performance that would be hard to capture with photographs and/or assessor notes alone) plays a significant part of the Employer-Set Project.

For tasks within the project where there is a requirement to submit video evidence, the evidence must meet the following minimum requirements, in order to be considered by markers:

- as per the guidance in section 2.3.2 of The *Marking and Moderation Guide for Centres*, assessors must ensure that this evidence can be easily matched to the correct candidate and task, is clearly shot, well-lit and shows the areas of particular interest in sufficient detail and clarity for assessment (i.e. filmed at appropriate points in production, showing accuracy of measurements where appropriate)

- Section 6.5 of the *Centre Manual* also contains general information about the requirements for video evidence submission.

Where video evidence is unclear, or does not meet these minimum requirements, markers will disregard it.

Task guidance

Candidates should be advised that approximate word counts or page lengths have been given within the task guidance in order to act as a guide to support the completion of the tasks. These are provided as a guide only, and there will be no penalisation of marking based on if the word count or page length is above or below the indicative guidance provided.

Preparation of candidates

Candidates should be aware of which aspects of their performance (across the AOs) will give them good marks in assessment. This is best carried out through routinely pointing out good or poor performance during the learning period, establishing next steps for improvements and through formative assessment.

During the learning programme, direct tutor instruction in how to tackle practical tasks through modelling, support, guidance and feedback are critical. However gradual removal of this support is necessary in preparation for summative assessment. This supported approach is **not** valid for summative assessment.

The purpose of summative assessment is to confirm the standard the candidate has reached as a result of participating in the learning process. Candidates should be encouraged to do the best they can and be made aware of the difference between these summative assessments and any formative assessments they have been subject to. Candidates must not have access to the full marking grids during the assessment.

Guidance on assessment conditions

The assessment conditions that are in place for this Employer-Set Project are to:

- ensure the rigour and consistency of the assessment process
- provide fairness for candidates
- give confidence in the outcome.

They can be thought of as the rules that ensure that all candidates who take an assessment are being treated fairly, equally and in a manner that ensures their result reflects their true ability.

These conditions do not affect any formative assessment work that takes place, although it is advised that candidates are prepared for the conditions they will need to work under during summative assessment.

The evidence for the tasks that make up this Employer-Set Project must be completed under the specified conditions. This is to ensure authenticity and prevent malpractice as well as to assess and record candidate performance for assessment. Any aspect that may be undertaken in unsupervised conditions is specified. It is the centre's responsibility to ensure that local administration and oversight gives the assessor sufficient confidence to be able to confirm the authenticity of the candidate's work.

Security and authentication of candidate work

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 assessor 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.

At the end of each assessment session, the task evidence should be treated as final and submitted by the candidate and retained securely by the centre for external marking. There should be no opportunity for the candidate to rework this evidence following initial submission. The candidate's final submitted evidence should be copied (either in soft or hard copy format, depending on how the evidence has been produced), with the original retained securely by the centre for external marking, and, where permitted, the copy provided to the candidate to allow them to refer to for support in the subsequent assessment sessions. Copies of the candidate's work should be retained in the centre between different assessment sessions. The original evidence will be retained securely by the centre in locked cupboards to ensure that the evidence is not amended following initial submission by the candidate.

Where a candidate naturally develops their responses, e.g., an early idea in Task 1 is further developed with additional ideas or a more refined in subsequent tasks, then this should be captured within the task where the candidate developed the revision or refinement. Candidates can use evaluation within later tasks to outline how and why their thought process may have changed as they further undertook the project.

After the production of evidence, both the assessor and candidate must sign declarations of authenticity.

Where the candidate or assessor is unable to or does not confirm authenticity through signing a declaration form, the work will not be accepted and a mark of zero will be given. If any question of authenticity arises, the centre may be contacted for justification of authentication.

Accessibility and fairness

Where a candidate has special requirements, assessors should refer to the *Access arrangements and reasonable adjustments* section of the City & Guilds website.

Assessors can support access where necessary by providing clarification to **any** candidate on the requirements or timings of any aspect of this Employer-Set Project. Assessors should **not** provide more guidance than the candidate needs as this may impact on the candidate's grade - see guidance and feedback section below.

All candidates must be provided with an environment, time frame and resources that allows them reasonable access to the full range of marks available.

Guidance and feedback

Guidance must only support access to the project and must not provide feedback for improvement. The level and frequency of clarification and guidance must be made available for external marking.

The level and frequency of clarification and guidance must be:

- recorded fully on the candidate record form (CRF)
- taken into account along with the candidate's final evidence during marking
- made available for external marking.

Assessors must not provide feedback on the quality of the performance or how the quality of evidence can be improved. This would be classed as malpractice. However, this does not apply if the assessor asks questions as part of the assessment process. Such requirements will be specifically stated within task centre guidance.

Assessors should however provide general reminders to candidates throughout the assessment period to check their work thoroughly before submitting it, and to be sure that they are happy with their final evidence as it may not be worked on further after submission. Candidates can rework any evidence that has been produced for each task during the time allowed.

The information on the guidance received and captured on the CRF is part of the evidence that will and must be taken into account along with the other evidence for the task when being externally marked. The marker will decide if the guidance the candidate has required suggests they are lacking in any area and consider the severity of the issue when applying the marking criteria. The marker must record where and how guidance has had an impact on the marks given, so this is available should queries arise at appeal.

What is, and is not, an appropriate level of guidance

- If a candidate is not on course to be able to submit the full range of evidence required, the assessor should **only** prompt the candidate by asking them to confirm whether they have covered all the requirements of the assessment.
- An assessor **must not** provide guidance that the candidate's work is not at the required standard or how to improve their work. The assessor **should not** explicitly state any specific areas that have been missed as this would potentially disadvantage other candidates. In this way, candidates are given the chance to identify and correct any errors on their own, providing valid evidence of knowledge that will be credited during marking.
- The assessor should offer the **minimum** amount of support via prompts throughout the assessment to ensure that the candidate's own performance is being fairly assessed without impacting on marks awarded.
- A detailed account of prompts by the assessor to the candidate **must** be recorded on the relevant form to be taken into consideration during external marking.
- If an assessor has to offer further guidance or clarification after they have prompted the candidate as detailed above, this should be done **with caution** and should not detail how a candidate can improve and should **only** reinforce the requirements of the task in order to support access to the project.
- A detailed account of further clarification of task and project requirements by the assessor **must** be recorded on the relevant form to be taken into consideration during external marking.
- The assessor **must not** produce any templates, pro-formas, work logs, CAD templates etc.. Where instructed to do so, these materials must be produced as specified and contain no additional guidance. If templates are provided by the Awarding Organisation, as part of a project task they must **not** be adapted but can be provided to candidates either electronically or as paper based.

Overview of task requirements

	Task			
Conditions	**1**	**2**	**3**	**4**
Candidates will have access to a computer with relevant software (i.e. word processing, spreadsheets, presentation software) and CAD systems	✓	✓	✓	✓
Candidates will have access to the Internet	✓	×	×	✓
Candidates will have access to the project brief document	✓	✓	✓	✓
Candidates will have access to copies of their previous task outputs (for review purposes only)	N/A	✓	✓	✓
All work must be completed independently	✓	✓	✓	✓
During any breaks, all materials must be kept securely	✓	✓	✓	✓
Candidate work will be saved securely for return to the candidate for use in future tasks*	✓	✓	✓	×
No assessment materials to leave the room at any point of the assessment	✓	✓	✓	✓

* Following tasks, work should be saved securely for return to candidates for use in future tasks within this project. This could be facilitated through the use of memory sticks or a specific location on a secure drive for work to be saved on.

Maths, English and digital skills

Throughout the completion of the tasks within the project candidates will generate evidence towards their maths, English and digital skills.

Maths	3 marks available
English	3 marks available
Digital	3 marks available

10% of the marks available for the project are allocated to maths, English and digital skills – with marks available for allocation across the tasks e.g. evidence from tasks 1 – 4 will be used to allocate 1, 2 or 3 marks for English.

This allows for a holistic approach to the marking of these elements which may be evidenced across the response to the project.

Appendix 1

Declaration of authenticity

Assessment ID	Qualification number
Candidate name	**Candidate number**
Centre name	**Centre number**

Additional Support

Has the candidate received any additional support in the production of this work?

No ☐ **Yes** ☐ (Please tick appropriate)

If yes, give details below (and on a separate sheet if necessary).

Candidate:

I confirm that all work submitted is my own, and that I have acknowledged all sources I have used.

Candidate signature	Date

Assessor:

I confirm that all work was conducted under conditions designed to assure the authenticity of the candidate's work, and am satisfied that, to the best of my knowledge, the work produced is solely that of the candidate.

Assessor signature	Date

Note: Where the candidate and/or assessor is unable to or does not confirm authenticity through signing this declaration form, the work will be returned to the centre and this will delay the marking process. If any question of authenticity arises, the assessor may be contacted for justification of authentication.

Get in touch

City & Guilds Technicals Quality Team

We 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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