

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

Employer-Set Project (8730-035)

Task 1 Summer 2023

Task 1 – Research

You have been asked by your supervisor at Lock Restoration Limited to respond to the design specification provided by the client (Canal Heritage). You will need to research potential technologies for the new lock gates.

You must conduct research to determine:

- opening/closing mechanisms options for the lock gates
- technologies that could be used for the automated operation and remote monitoring of the lock gates
- materials that could be used for key components for the gates, hinges and seals.

Using this research, you must write a technical brief which details your initial concept ideas for the lock gate based on the client's design specification. This must include:

- an evaluation of the potential opening/closing mechanisms, technologies and components
- the key requirements for a suitable opening/closing mechanism
- the key requirements for a suitable technology to automate the operation of the lock gate.

At this stage you do not need to recommend which of your ideas is your preferred. You will develop your ideas further in later tasks.

The technical brief will typically be 1500 words. The brief can include sourced pictures, engineering drawings, schematics, images, specifications, and sketches. You must include a list of your references/sources alongside your brief. References/sources are not included in the 1500-word count.

You must also provide any notes made as part of your research, including details of your research approach and how you planned your research. This is not included within the 1500-word count.

Timing of assessment

- You will have **three hours** to carry out the research and complete the technical brief.

Conditions of assessment

- Your technical brief should be completed working alone under supervised conditions.
- You must not share or discuss your work with other candidates.
- You will have access to the Internet to conduct your research.
- Assessment evidence must be handed in at the end of each session for secure storage which cannot be accessed.

What you must submit on completion of this task

- Technical brief (typically 1500 words) hard copy or file saved securely (e.g., in a secure online location or on memory stick to be handed in).
- List of references/sources.
- Research notes.

Additional evidence of your performance that will be captured for marking

- N/A

Marks available

- 15

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:

T: 0300 303 53 52 (Monday - Friday | 08:30 - 17:00 GMT)

E: technicals.quality@cityandguilds.com

W: cityandguilds.com/tlevels

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