Kingston University Assignment Brief

School of Engineering

Module Code:	EG5016B
Module Title:	*Exploring Engineering Project Management*
Assessment Title:	*Assignment 1 : Project Presentation*
Assessment Type: **Summative (% of module) or Formative**	*Summative – this assignment is worth 70% of your module grade*
Set By (Name and Contact Details):	*Constance Gnanasagaran, Room RVMB211, constance.g@kingston.ac.uk]*
Submission Deadline:	*15 December 2025, 23:59*
Formal Feedback Release Date:	*16 January 2026*

PURPOSE OF THIS ASSESSMENT / WHAT IS EXPECTED

Overview:

You will work in small groups on a Live Brief provided by an industry partner. This collaborative project represents a real-world challenge, giving you the opportunity to apply project management tools, quality management strategies, systems thinking and engineering design to develop a conceptual solution.

Assessment will be based on **individual achievement**, though the project work will be carried out collaboratively. The assessment has two parts:

- **Part A: Poster Presentation (40%)**
- **Part B: Individual Report (30%)**

For **Part A**, you will present your project outcomes on an A0-sized poster, focusing on the development of your final concept through a reverse engineering approach. Your poster should highlight how each tool and technique, such as Voice of Customer (VoC), Objective Tree Diagram (OTD), House of Quality (HoQ), and DFMEA, contributed to the design. It should also show how you addressed key requirements, managed risks, and applied Systems Engineering principles. During the live session, your group will engage in a Q&A with industry partners and faculty, and each member of the group will be required to present their part of the work.

For **Part B**, you will submit an individual project report that demonstrates the use of project management tools, quality management strategies, systems thinking, and engineering design in your Live Brief project. While you are expected to address all of these areas, you should place particular emphasis on the aspects where you made the strongest individual contribution.

The work will be carried out in groups, but **all assessment will be based on individual contribution**. Each student's submission must show how their input collaboratively contributed to the overall success of the project.

Part A: Poster Presentation (40%)

Poster Instructions: Reverse Engineering Your Final Concept

You will create an **A0-sized poster** that showcases the development of your final concept using a **reverse engineering approach**, with a focus on **Systems Engineering principles**. Your poster should illustrate how each **project management and quality tool** you used informed and shaped your design. The central focus will be on your ***final concept***, with supporting sections that trace its development journey.

Your poster should include the following key sections:

1. **Main Concept Overview**

   Concept Summary: Present a clear, concise description of your final design concept.

   Reverse Engineering Pathway: Visually outline the steps that led to the final concept, showing how each tool (VoC, OTD, HoQ, etc.) contributed to your decisions and design outcomes.

2. **Voice of Customer (VoC)**

   Insights from Questionnaire: Include 3-4 key insights derived from customer responses that helped define customer needs and expectations.

   Summary of Needs: Briefly summarise the primary customer needs that directly influenced your design concept.

3. **Objective Tree Diagram (OTD)**

   Key Objectives: Display **3-4** main objectives from your OTD that guided the design.

   Visual: Include a simplified version of the OTD to show how these objectives link to your final concept.

4. **House of Quality (HoQ)**

   Highlighted Requirements: Present **3** key customer requirements and **5** corresponding functional requirements that were critical in shaping your design.

   Design Integration: Explain briefly how each requirement influenced and is reflected in your final concept.

5. **Systems Engineering Integration**

   Holistic Approach: Describe how Systems Engineering principles were applied to ensure all elements of the project worked together as a cohesive system.

   Customer and Stakeholder Needs: Highlight how Systems Engineering helped you address customer and stakeholder needs across the entire design process.

   Interdependencies: Briefly discuss how you considered interdependencies between different components of the concept.

6. **Design for X (DfX) Factor**

   Focus Area: Select one DfX factor (e.g., Design for Manufacturability or Sustainability) that significantly impacted your design.

   Explanation: Describe how this DfX factor influenced design choices to enhance functionality, manufacturability, or sustainability.

7. **Hypothesised Failures (DFMEA)**

   Potential Failures: Identify **1-2** main failure modes anticipated in your DFMEA analysis.

   Preventative Actions: Summarise the mitigations put in place to address these potential failures in your design.

Individual Contribution and Presentation Requirement

Although the poster will be produced collaboratively as a group artefact, each student must present a distinct part of the work during the Mechanical Engineering Future Skills Day. Assessment will be based on both the overall quality of the poster (a shared group mark) and your individual oral contribution (clarity, accuracy, and ability to respond to questions). This ensures that your grade reflects your personal achievement as well as the collective output of the group.

Part B: Individual Project Report (30%)

Assessment Overview: For this assignment, you will submit an individual project report that provides a comprehensive account of the methods and techniques applied in your Live Brief project. The report should demonstrate how project management tools, quality management strategies, systems thinking, and engineering design were used to meet the project objectives. While you should cover all areas, you may place greater emphasis on the parts where you made the strongest contribution.

Assessment Structure:

1. **Introduction**
   - Provide a brief overview of the project and its objectives. Include relevant background information and context to set the foundation for your report.

2. **Methods, Results, and Discussion**
   - **Compilation of Class Techniques**: This section will bring together all methods and techniques covered throughout the module, including:
     - Project planning tools (e.g., Gantt charts, risk assessments)
     - Quality management techniques (e.g., Quality Plan, QFD, DFMEA)
     - Concept development tools (e.g., Affinity Diagram, Objective Tree, Concept Generation and Selection)
     - Any other methods learned and applied in your project work.
   - **Documentation and Analysis**: Present results from each technique, explaining how they contributed to achieving project goals and shaping the final concept.
3. **Conclusion**
   - Summarise the overall outcomes of your project, highlighting the key insights gained from using these methods. Reflect on the learning process and any challenges encountered.

4. **References**
   - List all references used in compiling this report, following the appropriate citation style.
5. **Appendices**
   - Include supplementary documents, such as meeting notes, additional calculations, or extra diagrams that support your main report but are too detailed to include in the primary sections. Also include the minutes of meetings with your industry mentor.

Submission Requirements:

- **Report Format**: Approximately 20-30 pages, excluding appendices.
- **Submission**: Submit via Canvas.

Page limit for the report is 30 pages.

Referencing and citation requirements : You are expected to refer to the indicative bibliography of the module provided in Canvas and the additional bibliographic sources suggested in the lecture notes. In addition, you must undertake your own appropriate further reading and research in relation to the matters addressed in this coursework brief. Evidence of independent reading and research will be rewarded. A list of References must be presented at the end of the report listing all bibliographic sources cited.

LEARNING OUTCOMES

The following module learning outcomes are tested in this assessment:
The following module learning outcomes and professional body learning outcomes are tested in this assessment:

1) Demonstrate the ability to critically evaluate your own personal development through reflection on your progress and goals. (B18)
2) Demonstrate use of the graduate attributes to explore problems beyond the discipline. (B5, B6)
3) Explore and apply engineering project management principles and techniques in the context of wider business operations, including risk management, health and safety, sustainability, EDI, ethics, and develop professional competency in the communication of ideas. (B7, B8, B9 ,14, B15)

ASSESSMENT CRITERIA

The assessment of your submission will be based on the following weighted assessment criteria as given below. Assessment criteria are reproduced in Canvas in a rubric.

PART A : Poster Presentation (40% of module marks)

Specific Criteria (Marking Scheme)	Description	Marks Available
Main Concept Overview	**Clarity and Relevance:** The concept is clearly described, and its relevance to the industry partner's goals is effectively communicated. **Reverse Engineering Pathway:** The poster effectively demonstrates the journey from VoC to the final concept, showing logical progression.	15
Combined Customer and Functional Requirements (VoC, HoQ, OTD	**Identification of Needs:** Presents integrated insights from customer needs (VoC), key objectives (OTD), and requirements (HoQ) that directly informed the design. **Impact on Design:** Shows how these requirements translated into specific design elements and decisions.	15
Systems Engineering Integration	**Holistic Approach:** Clearly describes how Systems Engineering principles guided an integrated, cohesive design.	15

	Addressing Stakeholder Needs: Highlights how Systems Engineering ensured alignment with customer and stakeholder requirements.	
DfX and DFMEA	**Application of DfX:** Clearly identifies a DfX consideration (e.g., manufacturability, sustainability) that enhanced the design's functionality or efficiency. **Failure Mitigation:** Shows how potential failures (identified in DFMEA) were mitigated through design choices.	15
Poster Structure and Visual Appeal	**Professional Layout:** The poster is well-organized and visually appealing, with effective use of headings, diagrams, and charts. **Conciseness and Clarity:** Information is presented concisely, with minimal text and clear sections.	10
Oral Presentation	**Engagement and Clarity:** Each group member actively participates, presenting confidently and clearly. **Responsiveness:** Answers questions with accuracy, showing depth of understanding. This element is assessed individually for each student	30
		Total = 100%

PART B : Individual Project Report (30% of module marks)

Specific Criteria (Marking Scheme)	Description	Marks Available
Introduction	**Clarity and Context:** Provides a clear overview of the project, including background, objectives, and scope. **Engagement:** Sets a strong foundation for understanding the purpose and relevance of the report.	10
Methods, Results, and Discussion	**Comprehensive Compilation:** Demonstrates awareness of all methods and techniques learned in class and applied in the project, while providing greater depth of analysis for the ***areas where the student made their strongest contribution.*** **Application and Integration:** Demonstrates an understanding of how each technique was applied in the project, linking results to specific project goals. **Critical Analysis:** Reflects on the effectiveness of each method, discussing how it contributed to the project's objectives. Shows critical thinking by addressing challenges and explaining how they were overcome.	60
Conclusion	**Summary of Findings:** Clearly summarises the outcomes of the project, linking back to objectives set in the introduction.	10

	Reflection on Learning: Highlights key insights gained, discussing the strengths and limitations of the methods used.	
References	**Accuracy and Relevance:** Cites all sources accurately and uses a consistent referencing style. **Appropriate Use of Sources:** Demonstrates appropriate use of credible references that enhance the quality of the report.	5
Appendices	**Supporting Evidence:** Includes relevant supplementary information (e.g., meeting notes, calculations, diagrams) that adds depth to the main report. **Organisation and Clarity:** Appendices are well-organised and support the main content without redundancy.	5
Presentation and Structure	**Professional Format:** The report is well-structured, with a logical flow and cohesive sections. **Clarity and Precision:** Writing is clear and precise, free from errors, and maintains a professional tone throughout.	10
		Total = 100%

FURTHER INFORMATION ABOUT THIS ASSESSMENT

Submission guidelines and mitigating circumstances

All assignments must be submitted by the date and time specified above.

You are required to submit an electronic PDF copy of your completed assignment via the Assignments section of Canvas and follow any specific instructions. Any change to this instruction will be advised via Canvas.

In line with University Regulations coursework submitted up to a week late will be capped at ***40%*.** Coursework submitted after this time will receive 0%.

In case of illness or other issues affecting your studies please refer to the University Mitigating Circumstances and Extensions Regulations. Please note that once you have submitted your work you have judged yourself fit to undertake the assessment and cannot usually claim mitigating circumstances retrospectively. Please refer to the Mitigating Circumstances Regulations for more information.

Guidance on avoiding academic assessment offences such as plagiarism and collusion can be found in the Digital Learning and Tools module on Canvas – see Academic Integrity.

Can I use Generative AI (GAI) as part of this Task?

No GAI Permitted: The use of generative AI is prohibited in any part of the work being assessed.

For further details on this GAI Assessment category please see:

Student Guide to GAI at Kingston University 2025/6 in the Digital Learning and Tools module in Canvas (Generative AI section).

Do I need to declare my use of GAI tools?

Yes, if you use Generative AI for any part of your assessment, you must declare this. This applies to all assessments including those in the default and explicit categories.

For this assignment the declaration should be provided at the end of the submission with the heading 'Acknowledgement of GAI Contribution'. This declaration should include a statement on the use of generative AI including the extent of use, and how it was used as part of all stages in creating the final submission.

For assessments that fall into the explicit category (does not apply to the purposes listed in the Default category), any GAI content included in the assignment, e.g., a quoted paragraph of text or an image, should be properly cited as with any non-GAI source.

Further guidance on completing this acknowledgement is provided in the Digital Learning and Tools module in Canvas (Generative AI section).

You will also need to read and accept the similarity declaration when submitting an assignment in Canvas.

Academic skills support

For help and advice on this assessment, please contact the assessment setter/s or the module leader. For advice on academic writing and referencing, please contact the Faculty of Engineering, Computing and the Environment (ECE) Academic Success Centre (SASC). Trained staff and students will give you guidance and feedback on assessments. SASC can be contacted by email: SASC@kingston.ac.uk – see the SASC website for details of drop-in sessions.