Kingston University London

School of Engineering and the Environment

Coursework Assessment Brief

Module Code	EG4023
Module Title	Introduction to Engineering Design and Manufacture
Title of Assessment	IMechE Design Challenge Project
Summative (% of module) or Formative	Summative – this assignment is worth 40% of your module grade
Typical individual student hours required to complete the assessment	160 hours
Assessment set by (and contact)	Andrew Curley a.curley@kingston.ac.uk
Submission deadline (date and time)	09th April 2025, 23:59
Formal feedback	20 working days

All assignments must be submitted by the date and time specified above.
Students are required to submit an electronic copy of their 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 Faculty policy for late submission of coursework, any work 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 policy. Guidance on mitigating circumstances can be found on MyKingston:

https://mykingston.kingston.ac.uk/myfaculty/sec/secstudentsupportMC/Pages/Mitigating-Circumstances.aspx

Please note that if you submit a piece of work you have judged yourself fit to undertake the assessment and cannot claim mitigating circumstances retrospectively.

Guidance on avoiding academic assessment offences such as plagiarism and collusion can be found on MyKingston > Academic Regulations

Module Learning Outcomes

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

1. To demonstrate a fundamental understanding of engineering design processes. (***PSRB LOs: B4***)
2. To demonstrate a fundamental understanding of the engineering drafting and manufacturing (***PSRB LOs: B1***)
3. Work in a team to develop and manufacture design solutions referring to the IMechE Design Challenge Project.***(PSRB LOs: B2, B3, B5, B9, B12)***
4. To demonstrate workshop and lab skills in the context of engineering. ***(PSRB LOs: B12, B13)***

5. To develop essential skills for engineering computer-aided modelling. ***(PSRB LOs: B13, B18)***
6. To demonstrate a good understanding of how to communicate engineering knowledge effectively. **(*PSRB LOs: B4, B17*)**

Assessment task and specific terms

- Formative feedback will be provided for different elements of the submissions.
- Peer assessment will be implemented.

Assessment Criteria

Assessment of your submission will be based on the following weighted assessment criteria as given below which relate to the specified module and PSRB learning outcomes. Assessment criteria are reproduced in Canvas in a rubric.

Specific Criteria (marking scheme) Insert additional rows as required. An example provided for reference purposes.	**Marks available**
Concept Design Clear explanation of the functionality, physical principles and fundamental components of the design	*20%*
Material Selection & CAD Justified material selection based on the mechanical properties, sustainability and safety. A functional CAD model that allows to prove geometric, structural and kinematic compliance.	*20%*
Electronics & Prototyping Adequate design and selection of electronic components following the IMechE design challenge regulation. Up-to-date prototyped devices demonstrating working principles	*20%*
Internal Competition Performance of prototyped devices against IMechE's design challenge regulation.	*20%*
Technical Documentation Organised documents to show project management and engineering rigour. Examples include engineering drawings, BoMs, Meeting logbook etc.	*20%*
	Total = 100%

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 (Student Academic Success Centre) can be contacted by email: SASC@kingston.ac.uk and is open every day in PRSB1019 and on Wednesdays in the RV Library.

https://kingstonuniversity.sharepoint.com/sites/mykingston/myfaculty/ECE/Pages/SASC.aspx