

Engineering Tripos Part IA, Product Design, 2023-24

Coordinator

[Prof P J Clarkson](#) [1]

Lecturer

[Prof. N Crilly](#) [2]

Timing and Structure

8 lectures, 2 lectures per week, weeks 5-8 Lent term. The last one or two lectures might be used for discussion. Lectures will be recorded.

Aims

The aims of the course are to:

- Instil an appreciation of engineering design
- Introduce a basic systematic design process

Objectives

As specific objectives, by the end of the course students should be able to:

- Define a problem statement for a simple engineering product
- Specify a requirements list
- Analyse the functional requirements of the product
- Generate and evaluate suitable design concepts
- Embody the design concept with attention to key design principles
- Consider the needs of different people who must interact with the product
- Present a design solution in the form of sketches and drawings
- Communicate the design process clearly to others

Content

- 1. The context, nature and challenges of design**
- 2. The design process**
- 3. Task clarification**
- 4. Conceptual design**
- 5. Embodiment design**
- 6. Designing for people**
- 7. Design representations**

Booklists

Please refer to the Booklist for Part IA Courses for references to this module, this can be found on the associated Moodle course.

Examination Guidelines

Please refer to [Form & conduct of the examinations](#) [3].

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Links

[1] <mailto:pjc10@cam.ac.uk>

[2] <mailto:nc266@cam.a.cuk>

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