

Engineering Tripos Part IA, Product Design, 2019-20

Lecturer

[Dr N Crilly](#) [1]

Timing and Structure

8 lectures, 2 lectures per week, weeks 5-8 Lent term.

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 see the [Booklist for Part IA Courses](#) [2] for references for this module.

Examination Guidelines

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

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Links

[1] <mailto:nc266@cam.ac.uk>

[2] <https://www.vle.cam.ac.uk/mod/book/view.php?id=364071&chapterid=42061>

[3] <https://teaching.eng.cam.ac.uk/content/form-conduct-examinations>