

## Engineering Tripos Part IA, Drawing, 2018-19

### Lecturers

[Dr Richard Roebuck \(Mich.\)](#), [Dr Nathan Crilly \(Lent\)](#) [1]

**This page is currently showing a draft syllabus for 2018-19.**

### Timing and Structure

Michaelmas: Four 2-hour lab sessions available for help desk support with three exercises to be assessed in these sessions. A single lecture will introduce the course. Lent: Seven 2-hour lab sessions. Each session begins with a short lecture.

### Aims

The aims of the course are to:

- Understand the role of engineering drawing in design, communication and production.
- Learn how to interpret different types of engineering drawings.
- Learn how to produce different types of engineering drawings (and select the appropriate type).

### Objectives

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

- Use a professional CAD package to create models of engineering components and assemblies.
- Read and produce isometric sketches of solid objects.
- Read and produce orthographic projections of solid objects.
- Read and produce auxiliary views of orthographic projections.
- Apply the basic principles of projection theory (which underpins orthographic projection).
- Apply the basic principles of dimensioning.

### Content

The IA Drawing course runs in the first two terms. The Michaelmas term focusses on learning the basic operation of a professional CAD package. The Lent term focusses on the theory that underpins engineering drawing and the practices involved in manual drawing.

#### Michaelmas Term (CAD)

- Parts
- Assemblies
- Drawings
- Project data management
- Revolves

- Sweeps
- Patterns
- Surfaces
- Sheet metal
- Weldments
- Animation

## Lent Term (manual drawing)

- Introduction to drawing (orthographic and isometric)
- Interpreting orthographic projections
- Reading and drawing auxiliary views
- ?Basic drawing conventions, including sections
- Part drawings and assemblies
- Projection theory: points and lines
- Projection theory: planes
- Introduction to dimensioning

## Further notes

There is a [moodle](#) [2] page supporting the course.

## Booklists

Please see the [Booklist for Part IA Courses](#) [3] for references for this module.

## Examination Guidelines

Please refer to [Form & conduct of the examinations](#) [4].

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## Links

[1] <mailto:rlr20@cam.ac.uk>, [nc266@cam.ac.uk](mailto:nc266@cam.ac.uk)

[2] <https://www.vle.cam.ac.uk/course/view.php?id=69741#section-2>

[3] <https://www.vle.cam.ac.uk/mod/book/view.php?id=364071&chapterid=42071>

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