

## **Engineering Tripos Part IA, Computer-Aided Design, 2023-24**

### **Lecturer**

[Dr Richard Roebuck](#) [1]

### **Timing and Structure**

This course involves: a single lecture in week 1 of Michaelmas Term; a Tutorial sheet to work through; a Task sheet on which you will be assessed. Help desk support is available through the term. Marking occurs at (or before) three fixed sessions.

### **Aims**

The aims of the course are to:

- Gain a working knowledge of Computer-aided Design (CAD) solid modelling.
- Learn how to translate ideas, designs and real world items into shapes, assemblies and animations within a solid modelling environment.

### **Objectives**

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

- Use our chosen professional CAD package to create models of engineering components and assemblies.
- Representing ideas, designs and real world items in the CAD environment in a range of ways.
- Create output from the CAD environment, including animations, so as to be able to communicate ideas in a range of ways.

### **Content**

The IA Computer-aided Design (CAD) course runs in Michaelmas Term and focusses on learning, and being assessed on, the operation of a professional CAD package.

**The delivery of this course (lecture, helpdesks and marking sessions) are detailed on the [moodle](#) [2] page supporting this course.**

### **Michaelmas Term**

- Introduction to Solidworks
- Creating parts
- Forming assemblies
- Outputting drawings
- "Revolving"
- "Sweeping"
- Shape creation involving repeated "patterns"
- Surface creation

- Forming sheet metal objects
- Using the "toolbox" of standard parts
- Using "design tables"
- Animating objects
- Analysing the motion of animated objects

### Further notes

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

### Examination Guidelines

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

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### Links

[1] <mailto:rlr20@cam.ac.uk>

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

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