# Engineering Tripos Part IIA Project, GC2: Light Aircraft Design, 2022-23

## Leader

[Dr J P Jarrett](#) [1]

## Timing and Structure

Fridays 11-1pm and Tuesdays 9-11 plus afternoons

## Prerequisites

3A1 essential

# Aims

The aims of the course are to:

- To explore the conflicting demands placed on the design by different engineering specialisms,
- To develop and use methods of visualising and thus effectively handling the inherent multidisciplinary design trade-offs,
- To demonstrate a viable and safe design concept for the aircraft,
- To maximise the key performance metrics of the final design.

# Content

The project involves the aerodynamic, mechanical and structural design of a light aircraft.

Students will work in groups of 3, but will each write individual reports. One member of each group will concentrate respectively on the aerodynamic, mechanical and structural design.

### Week 1

Operational requirements and flight safety.

### Week 2

Conceptual design including the handling of competing aerodynamic, mechanical and structural requirements.

### Week 3

Preliminary design refinement and validation of the concept to determine reasonable performance estimates.

### Week 4

Maximisation of the key performance metrics.

## Coursework

| Coursework | Due date | Marks |
|---|---|---|
| Interim report 1 | Friday 26 May 2023 at 11 am | 40 (weighted 60/40 in favour of group work, the remainder for individual work) |
| Final report | Friday 9 June 2023 at 4 pm | 40 (weighted 60/40 in favour of individual work, the remainder for group work) |

## Examination Guidelines

Please refer to [Form & conduct of the examinations](#) [2].

Last modified: 28/11/2022 10:53

**Source URL (modified on 28-11-22):** https://teaching.eng.cam.ac.uk/content/engineering-tripos-part-iia-project-gc2-light-aircraft-design-2022-23

**Links**
[1] mailto:jpj1001@cam.ac.uk
[2] https://teaching.eng.cam.ac.uk/content/form-conduct-examinations