

Part IA registration and start of year course information

This section contains information about special arrangements for the first few days of the Part IA Engineering course, as well as guidance for the rest of the year. All the documentation you will need for the course is available on the undergraduate teaching website; these briefing notes should help you to learn how to navigate the site.

You will at Registration receive hard copy of the 'Freshers' Guide' produced for you by students: it is available on-line [here](#).

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Registration timetable

Registration day: Tuesday 6 October

Registration takes place on the first floor of the main (Baker) building of the Engineering Department, in College groups. **All students** (Part IA plus exchange students and those transferring to any Part of the Tripos from other Departments) should register in accordance with the schedule below:

College	Time	College	Time
CAI:	10.40	K:	11.10
CC:	9.40	LC:	9.50
CHR:	9.05	M:	11.35
CHU:	14.25	MU:	11.25
CL:	9.30	N:	11.20
CTH:	14.15	PEM:	10.55
DOW:	9.50	PET:	12.00
ED	9.10	Q:	12.10
EM:	10.00	R:	15.15
F:	15.35	SE:	14.50
G:	10.25	SID:	14.45
HH:	9.10	T:	15.00
HOM:	9.30	TH:	15.15
JE:	15.25	W:	11.25
JN:	9.20		

The Registration will take place in two rooms this year. You will start in Lecture Room 4 (for photographs, drawing equipment, databooks) and finish in the Drawing and Project Office (DPO) where you will be asked to enter your registration details on a computer terminal and to complete an 'Application for Access to the Teaching Equipment'

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form. You will need your CRSid and Raven password. NB you will be unable to log on to the CUED Teaching System until about a day after you have registered. (MIT students should already have registered as part of their Orientation on Thursday 1 October). You should note the guidance about the [Department's computer system](#).

Notify staff if you are not a first year student, telling them whether you are an incomer or an exchange student.

Your CUED record card and photograph will be held in the Teaching Office and details (eg courses taken, exam results etc) will be added as you progress through the course. The image will be used for Departmental records and identification. See related [information about access and ID cards](#).

Essential equipment

A full set of the essential equipment can be purchased at the Part IA registration for £42.26 in cash, cheque, debit or credit card.

Databooks

Databooks can be purchased for £10 as a complete set in a Shell UK ringbinder, usually at Part IA registration. Databooks are needed for all four years. Replacements cost £2 per booklet. and can be obtained from the [Teaching Office](#).

NB. After registration day drawing equipment, databooks and calculators should be paid for and collected from the IT Helpdesk in the DPO.

Drawing equipment

A set of drawing equipment can be purchased for £15.70, usually at Part IA registration. Items are individually priced as follows:

- 2H pencil and plastic eraser (50p)
- acrylic ruler (£2.60)
- pair of large spring bow compasses (£8.10)
- radius aid (£2.00)
- geo-liner (combined set square and protractor) (£1.00)
- erasing shield (£1.50)

Calculator

A suitable calculator (Casio fx-991ES) can be purchased for £16.56 . Note that you must have a calculator that conforms to the [regulations for use in exams](#)

Introductory Lectures

Introductory Lectures Wednesday 7th October, 9.15–12.30 in LT0

All first year students must attend these lectures. Incomers into other years are more than welcome.

You will be issued with a folder containing general information, coursework instruction documents and the Freshers Maths Quiz.

09.15

Welcome to CUED

Prof David Cardwell, Head of
Department

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09.30	Aims of the Engineering Tripos	Dr Claire Barlow, Deputy Head (Teaching)
09.40	Laboratory work / Maths Quiz	Dr Stuart Scott
10.00	Week 1 Lego exercise	Dr Andrew Gee
10.05	Library introduction / Data Protection Act	Ms Niamh Tumelty
10.15	Student questions	
10.20	Staff Student Joint Committee	Mr Mike Beck (SSJC representative)
10.25	Accreditation	Mr Allan McRobie
10.35	Industrial Experience requirements	Mr Igor Wowk
10.45	Language programme	Mr David Tual
10.55	Outreach Opportunities	Ms Maria Kettle
11.05	break for coffee	
11.45	Health and Safety Talk	Mr Ian Slack

Study skills afternoon

Wednesday 7 October, 2–3.30 pm in LT0

You are encouraged to attend the Study Skills afternoon, the programme for which is as follows:

2.00pm	Lectures and Supervisions	Dr Alexandre Kabla
2.45pm	Balancing Priorities	University Counselling Service
3.05pm	Time Management	Dr Alexandre Kabla

The presentations are available [here](#).

Health and safety at work lectures

All new and incoming students to Engineering **must** attend this lecture which takes place at 11.45-12.15 on Wednesday 7 October in LT0. **Attendance will be registered.** Any late incomers should attend the repeat of this talk on Wednesday 14 October at 1pm in LT0.

Where are the lecture rooms/theatres?

LT0, LR4: ground floor Baker building

LR5, LT6: first floor Baker building

LT1, LT2: ground floor Inglis building

LR10, LR11, LR12: ground floor Baker South Wing

LR3, 3A, 3B: up steps in Inglis building

See also the SSJC map of the Engineering Department

Timetables

The Michaelmas term timetable is available in two formats.

1. A downloadable [pdf](#)
2. A set of [ical calendar](#) links that can be directly imported into an electronic calendar

N.B. We are unable to offer an accurate customisable timetable for this term.

Coursework and labs in your first week

In the first week of term you work on a Lego Mindstorms project and you will start the exposition course. [Other laboratory activities](#) start in the second week.

Lego Mindstorms

Part IA coursework starts with an intensive, hands-on activity using [Lego Mindstorms](#). You work in groups of three on an open-ended and fun activity to design and build a simple electro-mechanical device. There are ten timetabled hours in the [lab & coursework schedule](#), but you may wish to allow extra time during the evenings and weekend. The Lego lab handout (issued at the introductory lecture) includes instructions on how to sign on to Moodle afternoon of Wednesday 8 October.

Exposition

The communication of technical information is developed through the [exposition course](#) which aims to improve students' presentation, discussion and writing skills. You will work with your group leader and the other students on a range of exercises, including writing a lab report and giving a technical talk. Exposition classes often take place in Colleges rather than the Engineering Department.

The list of exposition leaders and session locations is available on the [Moodle Exposition site](#).

How to read the lecture card

How to read the lab and coursework rota

Preparing for the Week 1 Lego Mindstorms exercise

In your first week at Cambridge, you will get a flavour of real-world engineering through the medium of Lego Mindstorms NXT. Not only will it be fun, but you will also begin to appreciate the many challenges inherent in engineering system design, from gear backlash to structural rigidity and automatic control. At this stage, you will need to come up with *ad hoc* solutions to these challenges. In due course, you will accumulate the expertise that will allow you to tackle such problems in a more disciplined manner.

The exercise will require you to demonstrate teamwork and communication skills. You will also be introduced to a programming language called Matlab, which you will use to control your Lego Mindstorms system. Matlab is a powerful numerical programming environment that many engineers find invaluable. It has much in common with the Python programming language that you will be taught during your first year.

To help you hit the ground running, here are some things you should do before arriving at Cambridge.

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- **Watch some YouTube movies.** Go to www.youtube.com and search for Lego NXT. Spend some time admiring the amazing things that people have done with Lego, from Rubik's cube solvers to walking bipeds to bridge-laying robots to Segways. See what you can find out about the common components of these Lego systems: the NXT programmable brick, motors, sensors, structural Lego pieces (both studded and pin-jointed) and kinematic mechanisms (e.g. gear trains).
- **Get a feel for the structure of the exercise.** You will discover your team allocation and schedule following departmental registration, just two days before the project starts. There are three students to a team and schedules will include afternoons: bear this in mind before making other arrangements.

Week 1						Week 2
Thursday	Friday	Weekend	Monday	Tuesday	Wednesday	Thursday Friday
Session 1	Session 2		Session 3	Session 4		Session 5
Preliminary experiments	Design and build a Lego NXT system that demonstrates some aspect of engineering science				Prepare presentations	Presentations

In the first session, you will work through some highly structured exercises that introduce you to the Matlab programming environment and the various Lego sensors and actuators. The bulk of the activity occupies the next five days, when you will design and build a Lego system *that demonstrates some aspect of engineering science*. So no simple robots that just drive around and are little more than toys: we want you to do some real engineering! You might pick up some ideas from the web, you might have your own ideas, or you might like to try one of the projects we suggest. There will be prizes for the best systems, which will be showcased in a special lecture in week 2.

- **Read everything** at <http://mi.eng.cam.ac.uk/IALego/>. This includes details of the supplied Lego equipment, a tutorial on Lego gears, and some suggested projects. Apart from the Matlab programming details, all the projects should be understandable with some effort.
- **Optional — play with Lego.** If you have easy access to any Lego Technic, spend some time playing with it. Practise building simple structures and mechanisms.
- **Think about what Lego system you would like to build.** This might be one of the suggested projects, a variation of something you have seen on the web, or your own idea.

Library Update

Where's the library?

The Engineering Library is currently being refurbished but the team is still here to support you. Contact cued-library@eng.cam.ac.uk to request materials or training.

Website: <http://www.eng.cam.ac.uk/services/library-and-information-service>

Plagiarism avoidance: expectations of all students

The range of penalties for cheating in University examinations and coursework includes disqualification from the BA and MEng degrees. Ignorance of the seriousness of plagiarism will **not** be an acceptable defense.

The University's Discipline Regulation 6 states: "No candidate shall make use of unfair means in any University examination. Unfair means shall include plagiarism* and, unless such possession is specifically authorised, the possession of any book, paper or other material relevant to the examination. No member of the University shall

assist a candidate to make use of such unfair means."

* plagiarism is defined as submitting as one's own work, irrespective of intent to deceive, that which derives in part or in its entirety from the work of others without due acknowledgement.

To ensure that you understand what constitutes plagiarism and how to avoid it through good academic practice you are required to read:

- the University's [statement on plagiarism](#);
- the Department's guidance on [distinguishing between cooperation & cheating](#), which includes links to sources of further information and support.

If you do not fully understand the information in these documents you must seek clarification at the **earliest opportunity** from your Director of Studies or supervisor.

All work submitted electronically may be subjected to checking for plagiarism using Turnitin text-matching software. You are required to:

- read the [terms and conditions of use for Turnitin text-matching software](#) and electronically submit a completed consent as part of the registration process

Source URL (modified on 03-10-15): <https://teaching15-16.eng.cam.ac.uk/content/part-ia-registration-and-start-year-course-information>