CAMBRIDGE UNIVERSITY ISLAMIC SOCIETY

Engineering

Written by:	Aadam Iftikhar (maai2@cam.ac.uk) Jiyaad Ali (ja773@cam.ac.uk) Duaa Elfaki (de345@cam.ac.uk)

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Example Timetable

- 9 AM – 11 AM: 2 one-hour long lectures (with a ten-minute break in between. All lectures in first year are in the same lecture hall i.e Constance tipper hall)
- 12 PM - 2 PM: Lab session (most are two hours long, but a few can be shorter or longer)/ completing coursework in the department.
- 2 PM – 6 PM: Optional language course (weekly)/ 1 hour long supervision
- 6 PM – 10 PM: Independent work
- Every week, there are roughly 12 hours of lectures, 4 hours of lab sessions (sometimes that can go up to 15 hours if you're doing a long project such as Lego Mindstorm project at the start of the year or Structural design project), and 3 hours of supervisions. That's a total of 19 contact hours but that number can definitely increase if you're working on a large project.

What are Supervisions like?

Supervisions in engineering involves completing example questions based on what you've learnt in lectures so far beforehand and bringing your answers to these sessions to look through the answers with your supervisors. They focus a lot more on the methods you've used to tackle the questions rather than the answers, and it's also a good opportunity to bring up any questions you have from the lectures or if there's anything unclear about a topic. You usually have about three a week (with different supervisors looking at different papers), but that can vary based on your college.

What are Labs like?

The style of the labs can vary depending on what you're working on. Most of the labs in first year are two hours long where you carry experiments with your lab partner, record your results and have them marked by the demonstrator. Some labs might require you to do some pre-reading and even write a mini report, but otherwise you just automatically get the full marks for completing the lab. For the longer projects, you end up doing a total of 10-15 hours of labs in a week (2-3 hours per day) to construct and build your product, and later present it to the rest of the group.

What is unique about the Cambridge course?

One thing that I really liked about the Cambridge course was the fact that everyone has to do all types of Engineering for the first two years of the course (unlike other unis where you start doing your selected type straight away). This means that you get a taste of each type of engineering and can figure what you like and don't like before selecting what you want to do in third and fourth year. This is also very useful in future if you end up working in/managing a team with other types of engineers as you will be able to somewhat understand what they are talking about.

Another unique thing about the Cambridge course is that it is very heavily exam-based and the coursework element is quite small. We even have a system in the first two years called Standard Credit, which is as long as you put in a certain amount of effort towards an assignment, you are guaranteed a certain amount of marks so that you focus more on the lecture content. This is important to know in case you prefer a course that is more coursework based.

What did you wish you knew when applying?

One important thing to know before applying to Cambridge is studying at Cambridge is very intense, particularly when you are studying a STEM subject like engineering. This is because we have terms that last only 8 weeks compared to the typical 10/11 weeks and there is no reading week in the middle like at other unis.

We have a lot of lectures to watch and example questions to do for each of the different subjects and (especially in first year) a few coursework deadlines to juggle as well. Therefore, it is important to be good at time management and work diligently throughout the term to make sure you keep up with the work and don't fall behind but it is also important to do things you enjoy and have time off so that you don't get burnt out in the middle of the term.

Favourite and worst thing about your subject?

One of the things I like about engineering at Cambridge is that there is a wing within the department called CLIC (Centre for Languages and Inter-Communication) that offers the teaching of five different languages (French, German, Spanish, Chinese and Japanese) at various levels of fluency for free for all engineers because it is important for engineers to be able to communicate in different languages. You are even incentivised to take these classes as you can take them for credit instead of certain modules in Years 2, 3 and 4 but I would highly recommend you take advantage of this resource while you can.

One of the things I don't like about the way engineering is taught at Cambridge is that the quality of lecturers and notes does vary quite a lot. There are some lecturers who are really good at explaining what they are talking about by giving lots of examples and you can easily understand them. On the other hand, there are other lecturers whose notes and slides focus too much on the maths and derivations and it can be difficult to understand how that relates to the subject matter.

Application Timeline

1. **Start Early (Summer):**

- ***Research the Engineering course at the University of Cambridge:*** Begin researching the details of the Engineering course offered at the University of Cambridge. Understand the structure, course content, and any specialisations available within the Engineering field. Now is also a time to have a look at selecting colleges. Aim to make a shortlist of around 5-10 colleges in the summer.
- ***Understand the entry requirements and specific qualifications needed:*** Familiarise yourself with the entry requirements, such as A-level subjects and grades, and any additional qualifications or tests required for Engineering at Cambridge. **The only required A-level subjects are Maths and Physics** though doing **Further Maths is highly recommended** if you are able to do that. If your school does not offer Further Maths, then you can self-teach some Further Maths modules to strengthen your application. This has the additional benefit of showing that you are capable of independent study. The typical Cambridge offer for Engineering is **A*A*A** though this may differ very slightly from college to college. You will also have to sit the ESAT exam. A few colleges may require you to also sit a STEP paper (e.g. Peterhouse) so be aware of this when applying.
- ***Begin studying and preparing for any required exams:*** Start preparing for the necessary exams like A-levels or equivalent qualifications, and ensure you are on track to meet the required grades.
- ***Draft your personal statement:*** Begin drafting your personal statement, highlighting your enthusiasm for engineering, relevant experiences, and academic achievements. Tailor it to reflect why you are a suitable candidate for the Engineering course at Cambridge. Use the summer to research more into engineering so that you can convey your enthusiasm in your personal statement. I would recommend reading books on topics you find interesting or even just keeping up to date with journals and news articles. It would be a good idea to also get your first draft reviewed by someone like your teacher.

2. **September – October:**

- ***Narrow down your choices and confirm your interest:*** Finalise your decision to apply to the University of Cambridge for Engineering. By now, you should have picked a college to apply to. You can use the college

guides on the ISoc website to inform your decision. I would also advise that you see what colleges other people from your school applying for the same course have chosen. It would be a good idea to not pick the same college to maximise your chances of getting in.

- ***Seek feedback on your personal statement:*** Share your draft with teachers, mentors, or career advisors to receive feedback and suggestions for improvement. Make final revisions to your personal statement, ensuring it is well-structured, clear, and compelling. Highlight your passion for engineering and how your experiences have prepared you for the course.

Seek guidance from teachers or mentors for your academic reference: Approach teachers or mentors who can write strong academic references for your UCAS application. Provide them with any necessary information to support your application effectively. Aim to have your application submitted in good time before the early deadline in October.

3. **October:**

- ***Prepare for the ESAT***

4. **November:**

- ***Wait for a response:*** Now there's nothing much you can do after the. The results for the ESAT come out around 6 weeks after you have sat the test.
- ***Prepare for the interview:*** If you've secured an interview, great job! The interview stage is critical in the application process. Typically, there are two interviews, mostly held in the college you applied to. The focus is mostly on engineering problem-solving rather than your personal statement. Prepare by practicing mock interviews with a teacher and using online resources.

  During the interview, it is very important to think out loud to showcase your problem-solving approach. The interviewers value your process more than the final answer: don't hesitate to ask for guidance. Trinity College has a helpful engineering interview video on their YouTube channel.

5. **December:**

- ***Do the interview:*** The interview usually takes place in the first three weeks of December. Try to stay calm and enjoy the experience. You are getting the opportunity to discuss topics you enjoy with some of the most intelligent minds in the world. Regardless of the outcome, it is an enriching experience that will be useful for you in the future when it comes to job interviews. After the interview, you will have to wait until late January to find out the result of your application.

- ***Making your offer:*** If you have received an offer, congratulations! Your hard work has paid off. Now all you have to do is make sure that you meet your conditional offer specified in your offer letter in the summer. There is still some work left to do before you officially become a student at the University of Cambridge.

Personal Statement Tips

While it is true that Cambridge don't pay much attention to personal statements, especially for sciences, it would not be wise to neglect this area. After all, you also want to get offers from the other universities you have applied to who will base their decision on your personal statement.

- ***Express Passion and Motivation:*** Convey enthusiasm and what drives your interest in engineering. Talk about any books you have read and what you have taken away from them.
- ***Highlight Relevant Skills and Qualities:*** Showcase problem-solving skills, analytical thinking, teamwork, and attention to detail.
- ***Link Academic Interests:*** Connect academic pursuits, achievements, and extracurricular activities to engineering.
- ***Discuss Relevant Experience:*** Detail relevant work experience, projects, or internships related to engineering if you have done any.
- ***Connect to Future Goals:*** Explain how engineering aligns with long-term career objectives.
- ***Emphasize Extracurricular Involvement:*** Highlight relevant extracurricular activities, clubs, or volunteering experiences.
- ***Showcase Academic Achievements:*** Mention academic awards, honours, or relevant courses demonstrating academic prowess.
- ***Describe Problem-Solving Abilities:*** Share examples of challenging problems you've solved.

- ***Reflect on Personal Growth:*** Discuss how you've grown as an individual through experiences.
- ***Maintain Clarity and Conciseness:*** Write clearly and concisely, avoiding unnecessary jargon.
- ***Seek Feedback and Revise:*** Have others review for feedback and be open to revisions.
- ***Check for Spelling and Grammar:*** Proofread meticulously to eliminate errors.

Submit Ahead of the Deadline: Aim for a timely submission well before the UCAS deadline.

Entrance Test Tips

The **Engineering and Science Admissions Test (ESAT)** is the new entrance test that is being introduced. The details of this can be found online. The key things to note are that this will take place either on the 15th or 16th October. This is a computer based assessment. Free practice materials will be made available in May 2024.