

Computer Science

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Example Timetable

In the first year there are roughly 11 lectures per week as well as labs. In the first year, you will be doing the maths module from the natural sciences course as well. Usually, you have about 3 supervisions per week, but this can vary depending on how you schedule your supervisions.

You have 2 hardware lab sessions per term, in Michaelmas and Lent, resulting in 4 total. Each session is about 2 hours long, but you can leave earlier if you finish the lab before the session is over. There are also software labs that take place weekly during Lent for the Machine Learning and Real World Data module (these however are optional to attend in person).

You will also have 'ticks'. These are compulsory assessed programming exercises and range in difficulty throughout the year. These are to be completed by yourself and submitted online to an automated checker, which will either pass you or fail you for the tick. Most of the ticks have associated help sessions if needed, and you are also allowed to ask for deadline extensions if needed as well. You may also be randomly selected for a ticking

session, where you will have to explain your code to the lecturer, just to ensure the code is indeed yours.

In Easter term, there is a group project, where you have to produce a weather app. It is part of the Interaction Design module, so the emphasis is on designing the UI of the app, more than the functionality.

What are Supervisions like?

Supervisions will often consist of you and your supervision partner along with an academic that specialises in the specific module of that supervision. You will often need to complete supervision work beforehand which will consist of some quite challenging questions. The main aim of the supervisions is to develop your conceptual understanding and correct any misconceptions. They provide a superb opportunity to ask your supervisors any questions you may have about what you've learned in lectures.

What are Labs like?

In first year you will have Hardware Practical Classes. These take place in the Computer Lab and involve you making some logic for a circuit and then actually building the circuit in real life. The hardware labs progress in difficulty, and the demonstrators are extremely helpful and can resolve any issues you have when building your circuits.

There are also software labs under the module *Machine Learning and Real-world Data*. You start with a 30-minute lecture introducing a concept or expanding upon an existing concept, and then you have a tick to complete which implements the content you just learned. There are 9 of these labs in total, and they can be done in person or online

What is unique about the Cambridge course?

The Cambridge course places a lot of emphasis on theoretical understanding alongside the practical application of Computer Science. While there is a decent amount of programming and practical work, the course is largely focused on the underlying theoretical concepts of computer science, focusing on why things work, as well as how. The course is also quite broad; you cover a lot of different aspects of computer science in your first and second year, and

then in the third year you get to specialise in a few specific areas of Computer Science.

What did you wish you knew when applying?

The first year is quite maths-heavy. There are quite a few modules involving maths in the first year, and you also have to do the maths course from natural sciences, which results in there being a lot of mathematical content. However, what I will say is a lot of it will have been covered in A-level Mathematics and Further Mathematics, so it shouldn't be too difficult for the most part (just try not to forget everything over the summer).

Favourite and worst thing about your subject?

Favourite Thing: As the Computer Science course is so broad, I have been exposed to a few different areas of computer science that I didn't even know existed, and I have enjoyed learning about some of those parts of computer science thoroughly.

Worst Thing: I wholeheartedly believe that first-year discrete maths is the absolute worst module I have had the displeasure of studying throughout my entire academic career. However, you might enjoy it.

Application Timeline

In the summer before Year 13, you should aim to identify some areas of computer science that interest you and develop your knowledge of them. You don't need to have an undergraduate level of understanding on the topic but attempt to gain an understanding of those topics that is beyond what you would get in your A-level studies. Try to read some books or research papers or watch some lectures on YouTube. Also do some practical projects; you could develop a program related to one of the areas of computer science that interest you, or you could do a more practical task involving hardware. The main goal is really to develop an understanding of a few areas of computer science that interest you, in greater depth than what you would typically learn in school.

Personal Statement Tips

In your statement you should be aiming to identify and display how interested you are in computer science and how you have developed your interests in computer science, ultimately leading you to apply to study computer science at University. You should aim to identify 2-3 areas of Computer Science that interest you specifically, and show how you developed your interest in those areas through reading and personal projects.

Interview Tips

It is likely that one of your interviews will be focused on mathematics, and the other will be focused on computer science. This can however vary depending on what A-Levels you study (if you study Computer Science, your interviewers will likely focus more on computer science than on mathematics).

Aim to have a good grasp of the A-level mathematics and computer science topics you have learnt in school. Also, practice working through questions out loud. In Cambridge interviews, they want to know your thought process when answering the question, and it is more important to show your working to the interviewer than it is to just answer the question correctly with no explanation. Additionally, some colleges have pre-reading, that will be sent to you up to 24 hours in advance, and you will be asked questions on the text in the interview.

Other

When choosing your college, consider the closeness of your college to the Computer Lab. The lab is located in West Cambridge and is typically a 10-15 minute cycle (roughly 30-minute walk) from most colleges in Central Cambridge. A few of the colleges further away from the centre are closer to the lab, at the cost of being further away from shops and other amenities. Be sure to have a look at the college guides to help inform your decision on choosing a college.

