

# CAMBRIDGE MATHEMATICS: FAQs

*This is a summary of the answers to the questions that are most commonly asked at our open days.*

**Q Why do you give conditional offers based on STEP?**

A In the following, all numbers are approximate.

In the UK last year, 92,000 students took A-level mathematics of whom 16,400 were awarded A\*; and 14,000 took A-level Further Mathematics of whom 4,300 were awarded A\*. Together with Oxford, we are looking for about 500 mathematicians, so clearly a conditional offer involving only A\*s will not be sufficient. Instead, we (Cambridge) reduce our 1,300 applicants to about 500 via the interview process and then we use STEP to select the required 250. It is encouraging that the latest data show that the correlation between STEP results and our university examination results is extremely high. Other reasons for using STEP are that it is the same examination for all applicants (whereas what is required for an A\* may differ between different A-level examination boards); and it ensures that everyone who starts our course in October has the necessary technical skills to undertake our course. Help to prepare for STEP is available from [maths.org/step](https://www.maths.org/step).

**Q Which are the most useful (A-level) mathematics modules for the Cambridge course?**

A You may not have much, if any, choice of modules, in which case there is no difficulty. However, some areas of mathematics provide better preparation than others for our course (though not necessarily for other courses): in particular, pure and mechanics modules.

**Q Is Physics at A-level (or the equivalent) essential?**

A No. Even though there is a significant component of theoretical physics (applied mathematics) in our course, A-level Physics is not needed. None of our theoretical physics lectures assume knowledge of physics and the material is treated from a very mathematical point of view (so there is no need to worry if you did not like school physics).

**Q I am taking IB, which has no mechanics in the mathematics course. Is this a big disadvantage?**

A No. But it is useful to take HL physics; the IB physics course is much more mathematical than its A-level counterpart, and it provides a good preparation for our course.

**Q Is there much choice in the Mathematical Course?**

A The first year is a foundational year and there is no choice. In the second year, there is a small amount of choice and some flexibility in the number of courses you take. In the third year, you choose freely about 8 courses from 36; you could specialise in one area of mathematics, but you don't have to. In the fourth year, you choose freely around 6 to 8 courses from around 80; you also have the choice of doing a mathematical essay instead of one of the courses.

**Q Is it possible to take some Economics/French/Philosophy courses (for example) as part of my degree?**

A No, sorry, not as part of your degree. This is a course for those wanting to take only mathematics. The exception is the Mathematics with Physics course in the first year only. In most other universities, it is possible to combine mathematics with other subjects. However, you can attend any lecture you wish in any other subject at Cambridge in your spare time.

**Q I am very interested in Physics. Should I apply for the Natural Sciences Course or for the Mathematics with Physics option of the Mathematical Course?**

A This is a decision for you to make. One consideration is that if you take the Natural Sciences Course (NST), you would be unlikely to be able to change to Mathematics at a later stage; whereas if you take the Mathematics with Physics option, you choose at the end of the first year whether to continue with Mathematics or change to Physics for the second year. If you take NST, you would have to take two lab-based subjects (Chemistry, for example) together with Physics and the NST Mathematics course which might not be to your taste; and similarly if you take Mathematics with Physics you would have to do some very pure mathematics which may not be to your taste. If you apply for Mathematics with Physics you will be judged alongside the other applicants for Mathematics, so your mathematics has to be very strong.

