

## FAQs – Mathematics

**Q: *What is the difference between A level Maths and Double Maths?***

**A:** A level Mathematics is the traditional A level qualification that counts as one of your three subjects to make up a full-time level 3 programme of study. As with other subjects, you'll have 5 hours of lessons a week with a single teacher who is a maths specialist. It's a 2-year course covering both pure and applied maths with exams at the end.

Double Maths is a more intensive course, with two teachers and 10 hours of lessons per week, and is for students wanting to study a maths-related degree at university. Double Maths students will end up with 4 A levels in Mathematics, Further Maths and two other subjects of their choice, which could be sciences, computing, economics or a more complementary subject, e.g. geography, history or music. Both maths A levels cover a combination of pure and applied maths.

**Q: *How is A level Maths different from GCSE?***

**A:** A level Mathematics builds on your GCSE algebra skills, with topics including functions, coordinate geometry and Calculus. It also features applied maths topics in mechanics and statistics. You'll develop the use of trigonometry for angles of any size and there will be a greater emphasis on reasoning and proof.

**Q: *What enrichment opportunities do you offer?***

**A:** Students have the chance to sit the UK Senior Maths Challenge in November and subsequent rounds leading to the British Mathematics Olympiad if successful. We also take groups to external events such as the Maths in Action roadshow, to hear entertaining talks from mathematicians in industry, commerce and the media. We enter teams in other competitions for those interested in engineering, business and accounting. We run support sessions to prepare students for entrance tests for veterinary and medicine courses (BMAT, UKCAT), Oxbridge (MAT and STEP) and other top Russell Group universities.

We have a reading list for those considering studying Mathematics at university and there are plenty of leadership roles within the Department, including our Maths SYMPLifiers, who give mentoring support and help run the daily Maths Workshop and year 9 Quirky Maths Club.

**Q: *What do A level Maths students go on to after college?***

**A:** A level Maths sits well alongside any subject combination and is a much-prized qualification for developing students' analytical and problem-solving skills. Students go on to a diverse range of careers from science and engineering (STEM) to business, architecture and financial services. The digital economy and the harnessing of Big Data have placed mathematicians at the heart of many businesses and industrial sectors. A maths qualification has never been more highly valued and your employment prospects are significantly enhanced if you can demonstrate proficiency in mathematical modelling, calculation, problem-solving and statistics.

**Q: *I'm predicted a grade 6 but I need A level Maths. What do I have to do to secure a place?***

**A:** We ask for GCSE Maths grade 7 for A level Mathematics, but we say that in exceptional circumstances, we will consider applicants with grade 6, if the rest of the grades suggest that this understates their ability. We don't like to turn students away, but it would be irresponsible to sign someone up for a course they are unlikely to pass. At QMC we are pleased to be able to offer a range of courses to suit all abilities. For those studying A levels with a significant mathematical content (e.g. biology, psychology, geography, economics) who wish to extend their maths skills beyond GCSE, there is the Level 3 Core Maths qualification.

Core Maths is a one-year course with exams at the end of the first year, meaning you can concentrate on your A levels in the second year. It sits alongside your three A levels and means you will qualify with 3½ A levels whereas most students will leave with three. The course has a more practical focus than A level Maths, covering estimation, financial calculations and statistical techniques. It aims to develop your skills at predicting outcomes and solving real-world problems where you may not have all the information you need and might have to make some sensible assumptions as part of your mathematical model.

**Q: *What should I be doing between now and September to prepare for the A level Maths course?***

**A:** It is so important that you keep your maths skills sharp. The A level Maths course moves quickly and students do find the pace and challenge a considerable step up from GCSE. Having left school early in March, you will have had a break in your education of almost six months; without regular practice your maths skills will be very rusty! We are directing maths applicants to some excellent resources to practise and develop your algebra and problem-solving skills between now and the new term, with a three-stage bridging programme. If you go to [qmc.ac.uk/prepare](http://qmc.ac.uk/prepare), there are links to a number of recommended external websites with plenty of tantalizing puzzles and problems to get your teeth into. From June, we will be issuing a series of weekly exercises from Dr Frost Maths, to

rehearse some key algebra skills. Later in June, we'll issue you with access codes for Mymaths and set a number of tasks for you to complete over the summer. If you have managed to complete these Mymaths assignments successfully, you should be in good shape to tackle the new topics you will meet in September. I encourage you to engage with this work, so that you are well-prepared for A level Maths, and wish you a happy and healthy summer. We very much look forward to greeting you at enrolment at the end of August. In the meantime, if you have any queries or concerns, do please get in touch by emailing me at [david.smith@qmc.ac.uk](mailto:david.smith@qmc.ac.uk).

Thanks again for your interest in applying for mathematics at QMC and good luck!

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