Mathematics

Who is the course for?

For students who can rise to the challenge of solving a mathematical problem and enjoy the satisfaction of getting it right. One of the most important qualities of a good mathematician is the desire to persevere until a problem is solved. Sometimes the answers come quickly and easily. At other times you will need to try various routes and techniques before 'cracking' it, but it's a great feeling when you do!

Mathematics is a highly regarded A level subject, by employers and universities alike. A recent statistical survey shows that people with A level mathematics earn about 10% more than the rest of the population! (This percentage greatly increases for those who take maths further). Mathematics forms a part of many university courses even if you are not studying the subject itself.

An A level in mathematics provides an excellent foundation to a wide range of courses in higher education. As there is no essay work involved in mathematics at A level, the time that you spend thinking through problems can be quite refreshing, especially if you are studying other subjects, which have a high content of written work.

What skills do I need to do well?

Some students are fortunate to have a natural aptitude for mathematics. Most students who study maths at A level are mathematically able but still have to work hard to grasp some of the more demanding concepts. The students who do well at maths A level are those who are willing to persevere when things get difficult and studious enough to independently seek out help.

Comments from Chauncy A Level Maths students

"I chose A Level Maths because it opens a lot of doors into a large variety of different careers, such as Accounting, Computer Programming, and Aerospace Engineering. It helps to develop your ability to solve problems in the wider world".

"Although at times A Level Maths is very challenging, the teachers have always supported me right until the end, leaving me with the feeling that I'm able to succeed".

FAQs

What GCSE grades do I need for Mathematics AS or A level?

Students who study mathematics at A level should achieve a Level 6 or above at GCSE and will have followed the higher course. Being one of the most challenging subjects you can study at A Level (but equally one of the most rewarding and highly regarded), only students who are hard-working, well organised, and above all, determined to succeed, should consider the course. Students currently predicted a Level 6 must attend the Access to A Level course in Year 11 if they wish to take the A Level course. All students wishing to enrol on the course complete a Summer Bridging Project (half written, half online) in their own time (Jul/Aug) and a Pre-requisite Assessment in September of Year 12, both of which are designed to ensure that the students have the necessary attitude and skills to succeed, and that they have chosen the right course.

What resources are available?

At Chauncy, we follow the Edexcel syllabus. Fortunately for us, the exam board produces a series of books written especially for this course. Students make full use of two or three

websites dedicated to A Level Maths/Further Maths – all with a multitude of resources; past papers, worked solutions, revision notes, practice questions, etc.

What support is available to students?

A Level Maths teachers run weekly support workshops in both Year 12 and 13 to help students meet the demands of the course.

Summary of unit content

<u>A Level</u>

Unit	Summary of content	Weighting of A2 Level
Paper 1: Pure Mathematics 1	Proof, Algebra and functions, Coordinate geometry in the (x,y) plane, Sequences and series, Trigonometry, Exponentials and logarithms, Differentiation, Integration, Vectors	33.33%
Paper 2: Pure Mathematics 2	Proof, Algebra and functions, Coordinate geometry in the (x,y) plane, Sequences and series, Trigonometry, Differentiation, Integration, Numerical methods	33.33%
Paper 3: Statistics & Mechanics	Statistical sampling, Data presentation and interpretation, Probability, Statistical distributions, Statistical hypothesis testing Quantities and units in mechanics, Kinematics, Forces and Newton's laws, Moments	33.33%

Each unit is examined by a two hour exam, all of which are sat in the summer of Year 2.

There is no coursework as part of this course.
Regular assessments and use of ResultsPlus and question level Analysis throughout the course ensure students and teachers alike are able to chart student progress and intervene when necessary.