

Sixth Form Courses

A Level Mathematics

Why take this subject?

Mathematics is a subject that gets more interesting the further you study it, and this certainly continues into A Level and beyond. The A Level course aims to develop your understanding of mathematics and mathematical processes in a way that promotes confidence and enjoyment. In particular, it develops your ability to reason logically, to generalise and to construct mathematical proofs.

No one would say that A Level mathematics is an easy option, but it is certainly worthwhile. As well as being enjoyable, it is also valued extremely highly by employers and universities alike.

You will be one of the first year groups studying the brand new Mathematics A Level Course; this is an exciting time as we believe the new course is both more interesting and exciting than the current one. However, rest assured that the content is 90% the same as the course we have been teaching for the last 10 or so years.

What do I need to have studied at GCSE?

The Year 1 course starts at grade 7, 8 and 9 at GCSE and moves straight on; there is little time to go over GCSE topics. Because of this, we strongly recommend that students have achieved a grade 7 or above at GCSE Level. We will however, in exceptional circumstances, allow particular students on to the course with a grade 6.

In addition we expect all students to have completed a bridging pack of grade 8/9 GCSE questions before they start the course. We will provide this in June/July.

What will we study?

The course is divided into three distinct areas:

- Pure Maths (two thirds or approximately 67%)
- Statistics (one sixth or approximately 17%)
- Mechanics (one sixth or approximately 17%)

The Pure Maths topics are mostly algebra and focus on mathematical processes and modelling real-world situations. Statistics and Mechanics are applied mathematics. Statistics develops the ideas of probability and analysing data whereas Mechanics is the maths of physics. You will study all three areas in both Year 12 and Year 13.

How will I be examined?

You will have three 2-hour exams, all at the end of year 13. Each contributes 33.3% to your final grade.

- Pure 1
- Pure 2
- Statistics and Mechanics

You will sit internal examinations in November, February and June of Year 12; and November, February and April in Year 13.

What super curricular opportunities will be available to me?

Starting this year we are planning trips to lectures. We are also planning to invite external speakers. Seminars on undergraduate level topics may also be available next year.

What can this subject lead to?

A-level Mathematics is listed as one of the Russell group's **facilitating subjects** because so many university courses list it as being either essential or desirable. University courses that always list mathematics A Level as essential include:

- Mathematics
- Engineering (any type)
- Computer Science
- Physics
- Economics

There is also a **huge list of subjects** that list mathematics A-level as desirable (or sometimes essential), ranging from Dentistry to Philosophy.