A Level

Mathematics

What Entry Requirements Do I Need?

The normal Sixth Form entry requirements including at least GCSE Grade 6 in Mathematics.

How Will I Be Assessed?

The A level course in Mathematics is a two year course which now has a fixed content, and includes Pure Mathematics, Statistics and Mechanics, approximately 2/3 Pure, 1/6 Statistics and 1/6 Mechanics. Assessment is through three exams at the end of the second year.

What Will I Learn on This A Level Course?

A level Mathematics builds from GCSE level Mathematics and introduces calculus and its applications. It emphasises how mathematical ideas are interconnected and how mathematics can be applied to model situations mathematically using algebra and other representations, to help make sense of data, to understand the physical world and to solve problems in a variety of contexts, including social sciences and business. It prepares students for further study and employment in a wide range of disciplines involving the use of mathematics.

There is no coursework in A level Mathematics but there is an emphasis on proof, problem solving and modelling. There is also a focus on the use of technology and learners should be proficient in the use of their calculator, including obtaining probability values from standard statistical distributions, graphing software and spreadsheets.

What Kind of Person Studies This Course?

Many students enjoy the challenges of the subject. They like its logic and strict arguments and achieve satisfaction through problem solving. The methods used are effective in many ways.

Mathematics has strong links with a wide range of subject areas. Many students are amazed to discover the amount of mathematics required in subjects such as Geography and Social Sciences as well as the more obvious Science connections.

Enrichment

There is an opportunity to take part in the UKMT Senior competition in November.

There is also the possibility of helping out in the Mathematics department by working alongside teachers within KS3 and KS4 lessons and helping with gifted and talented activities. We have found that these opportunities have helped students with their communication skills and confidence.

Expectations

In order to cope with this course you will be expected to have a confident command of algebraic techniques. A summer induction booklet has been introduced to address this issue.

We are a supportive department who expect you to have an interest and enthusiasm for Mathematics in which you commit to regular homework to consolidate ideas met in the classroom.

Communication is the key and with our smaller class sizes, we are able to offer an environment of mutual respect and the chance to discuss and develop ideas.

Why Study A-Level mathematics?

Universities value Maths and it is a pre-requisite subject for a huge number of degrees. People who have studied Maths or Further Maths have an excellent choice of careers, many of which involve very well-paid professions. Maths and Further Maths are two of the Russell Group universities' 'facilitating' subjects — so-called because choosing them at A-level allows a wide range of options for degree study. Sciences such as Biology, Chemistry and Physics use many mathematical techniques, and subjects such as Geography, Psychology and Sociology are also likely to have components which will be far more easily mastered by those with prior study of Mathematics.

Where Will an A Level in Mathematics Lead Me?

Mathematical and statistical problem solving, data analysis and interpretation skills are all developed through the study of A-level Maths and are considered valuable in a broad range of subject areas. Some of the most interesting and well-paid careers revolve around Maths. Given that Maths is at the very core of all new technological developments, there are many careers where mathematical skills play a major role include: Air Traffic Control, Architecture, , Engineering, ICT, Meteorology, Operational Research, Optics, as well as Accountancy, Banking and Economics.