

ST MARY'S COLLEGE



INTRODUCTION

If you have enjoyed Maths so far, have coped with Mathematics GCSE comfortably and wish to pursue your studies further, this may be the course for you.

AS LEVEL

Content

The AS course lasts one year and consists of three modules of which two are core modules and one is an applied module.

Module	Assessment
CORE 1 (MPC1) Basic algebra, quadratic graphs, geometry, an introduction to differentiation and integration and basic transformations. This is a non-calculator paper.	Exam: 1 Hour 30 minutes in January
CORE 2 (MPC2) Indices, logarithms and exponentials, sequences and series, trigonometry and further differentiation and integration.	Exam: 1 Hour 30 minutes in the summer
MECHANICS 1 (MM01) Kinematics, statics and forces, Newton's Laws, connected particles, projectiles and momentum	Exam: 1 Hour 30 minutes in the summer

How is the course delivered?

4 hours 35 minutes class contact is allocated each week.

Our teaching approach will involve some teacher input and time for discussion either with the teacher or in small groups. There will be a small element of note taking, but the emphasis will be on the consolidation of new ideas by doing plenty of practice questions. We will do practical activities when relevant and make considerable use of the computer network, including the college intranet site. You will be shown how to make the best use of a graphical calculator.

Entry requirements

You need 5 GCSEs at grade C or above and at least a grade C in Maths at higher tier. A grade B or higher would be desirable.

What skills and interests do I need?



The course has a high algebra content, so you need to be comfortable working with algebraic expressions. You will also need to be able to solve equations easily, re-arrange formulas, etc. You will be expected to do questions regularly at home, some to be handed in for marking, others to be checked in class.

After the first exam you will need to have a good scientific calculator. If you carry on to A2 maths we highly recommend a graphical calculator.

How does it build upon studies in Key Stage 4?

To succeed at Mathematics you need to do plenty of practice, as you did with GCSE and we will give you notes, plenty of questions, and regularly test your understanding of the work covered.

The pace and standard of work is more demanding. You will be expected to spend about 5 hours of study each week outside class reading notes and doing homework.

How is the course assessed?

There will be three written papers, one for each module as described above. Each module has equal weighting and the marks will be added up in order to give your final grade. The first module is non-calculator. Any calculator can be used for the other 2 modules.

A2 LEVEL

Content

Again, the course consists of three modules. There are 2 core modules and one applied module. The core modules build on the AS core modules.

Module	Assessment
CORE 3 (MPC3) Algebra and functions, Trigonometry, Exponentials and logarithms, Differentiation, Integration and Numerical Methods.	Exam:1 hour 30 mins January
Core 4 (MPC4) Algebra and functions, co-ordinate geometry, sequences and series, Trigonometry, Exponential Growth, Differential Equations and Vectors.	Exam:1 hour 30 mins In the Summer
STATISTICS 1 (MS1B) Mean and Standard Deviation, Probability, the Binomial and Normal Distributions, Sampling, and Correlation and Regression.	Exam: 1 hour 30 mins In the Summer

How is the course delivered?

The teaching methods used are the same as for the AS course. However, it will be expected that students have developed as independent learners and can take more responsibility for their own learning.

Entry requirements

A pass in AS Maths.

How is the course assessed?

Three written papers, each of length 1 hour 30 minutes. All examinations have equal weighting. These marks are combined with those for the three AS modules in order to get the overall A level grade.

Progression routes

Mathematical ability is very highly regarded both by universities and employers. An A-level in Mathematics is essential for many courses (eg Physics, Engineering and, of course, Mathematics itself) and is highly desirable in a wide range of subjects such as Chemistry, the Natural Sciences, Computing, Architecture, etc. To train as a Mathematics teacher is another option, and is desirable for students wishing to specialise in Primary Education. There is a national shortage of Mathematicians, so career prospects are good.

Further Information

For further information please contact Huda Dawood, Keith Turland, Robert Williams

Full specifications can be found at
www.aqa.org.uk/qual/qceasa/mathematics.html

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