



What will I learn?

The skills developed by studying mathematics in the sixth form are highly valued by employees and universities across a wide range of careers from medicine and law to engineering and management. Mathematical skills aid the development of powers of analysis and strong problem solving skills.

Some of the aims of the specification are to encourage you to:

- develop your understanding of mathematics and mathematical processes in a way that promotes confidence and fosters enjoyment
- extend your range of mathematical skills and techniques and use them in more difficult unstructured problems
- use mathematics as an effective means of communication
- take increasing responsibility for your own learning and the evaluation of your own mathematical development.

Highlights

As well as the opportunity to enter the national Senior Maths Challenge, we try to enter a team of four students for the Senior Team Maths Challenge.

What are the recommended entry requirements?

Grade 7 or above at GCSE Maths is preferable.

How will I be assessed?

There will be 3 equally weighted papers, each of 2 hours duration, and each marked out of 100.

Summary of subject content:

The content of A level Maths Courses is the same for every exam board, the difference will be in the assessment structure

Pure

Proof,
Coordinate geometry in the (x,y) plane
Trigonometry
Differentiation
Numerical methods
Algebra and functions
Sequences and series
Exponentials and logarithms
Integration
Vectors

Applied

Data presentation and interpretation
Statistical distributions
Statistical sampling
Probability
Statistical hypothesis testing

Quantities and units in mechanics
Forces and Newton's laws
Kinematics
Moments

What are the costs?

Calculator: it must be able to calculate probabilities from standard distributions, so most GCSE scientific ones will not be suitable. Advice will be given on suitable calculators.

Future Opportunities

Mathematics complements a wide variety of other A-level courses and in addition, Mathematics A-level provides an understanding of the mathematical tools and techniques that are an integral part of many degree courses.



This course is for those students who wish to study Further Maths in addition to Maths

**What are the recommended entry requirements?
How will I be assessed?**

Grade 8 or above at GCSE Maths is preferable. This is a 4th A-level so strong GCSE grades across all subjects are a requirement.

As well as the content detailed on the Maths page, the following additional content will be covered for the Further Maths papers

There will be 3 equally weighted papers, each of 2 hours duration, and each marked out of 100.

Paper 1

What's assessed

May assess content from the following sections:

- A: Proof
- B: Complex numbers
- C: Matrices
- D: Further Algebra and Functions
- E: Further Calculus
- F: Further Vectors
- G: Polar coordinates
- H: Hyperbolic functions
- I: Differential equations
- J: Trigonometry
- L: Coordinate geometry

Paper 2

What's assessed

May assess content from the following sections:

- A: Proof
- B: Complex numbers
- C: Matrices
- D: Further Algebra and Functions
- E: Further Calculus
- F: Further Vectors
- G: Polar coordinates
- H: Hyperbolic functions
- I: Differential equations
- J: Trigonometry
- L: Coordinate geometry

Paper 3

What's assessed

This will be a paper on the applied topics and we will have the choice of

- Statistics and Mechanics
- Statistics and Discrete
- Mechanics and Discrete

The decision as to which options we will choose will be made in due course.