

Mathematics



Why study A Level Maths?

The main reason you should consider studying A Level Maths is that you really enjoy the subject: you relish the challenge of a tricky question, you like the process of working through a puzzle logically and you gain satisfaction from successfully solving a problem.



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Other reasons for studying A Level Maths include:

- You will gain a qualification that is well-respected by employers and higher education
- You will develop key employability skills such as problem-solving, communication, logical reasoning and resilience
- A Level Maths supports the study of many other A levels



Why study A Level Maths?

The UK is one of the few countries in the world where the study of maths is not compulsory after the age of 16.

We are a tiny island that is part of a global economy. You will be competing for jobs with people who have studied maths at least up to the age of 18, especially if you are considering studying or working abroad.



Why study A Level Maths?

Maths is the most popular A level, with over 94 000 entries last year, and has been since 2015.

Around 15 000 students also take further maths.



Why study A Level Maths?

Our students say...

“I chose Maths because I enjoy problem solving and finding ways to apply Maths to real world questions”

“It’s challenging and satisfying”

“Qualifications in Maths can open various career doors”

“I enjoy learning about complex ideas that lots of people wouldn’t understand”



Course Content

A Level Maths is two-thirds pure Maths and one-third applied Maths.

Pure Maths includes areas of Maths you will already be familiar with like algebra, trigonometry, vectors and proof, as well as some of the big ideas in mathematics like calculus.

Applied maths involves statistics and mechanics. You will have studied some topics in statistics at GCSE like probability and correlation. Mechanics is the modelling of the world around us, the motion of objects and the forces acting on them. Mechanics is particularly useful for students planning careers in physics or engineering.



Results

2020

A* 19%

A* - A 52%

A* - B 74%

2019

A* 11%

A* - A 37%

A* - B 70%



Entry Requirements

You must have at least a grade 7 at GCSE to gain automatic entry onto the A level Mathematics course. However, students who have achieved grade 6 at GCSE are permitted entry if they are also able to achieve 60% in the Head Start test.

The topics tested in the Head Start test are: rational and irrational numbers, fraction calculations, indices, factorisation, completing the square, quadratic formula, simultaneous equations, finding a gradient and finding the distance between two points. All of the content of the Head Start test is covered on the GCSE Higher course and you will be given a sample paper to use for revision.



Lesson Structure

At A Level there is a 2:1 ratio of pure to applied content in both the AS and A Level Mathematics. You will have ten lessons of maths a fortnight;

Pure Mathematics lessons: 6 hours a fortnight

Applied Mathematics lessons: 4 hours a fortnight

In order to fit in the huge amount of material that needs to be covered, lessons will often be fast moving.

In lessons, you should expect to explore new concepts, make notes and work through examples and practise questions.

Following each lesson you will be set homework which should take between 45 minutes and 1 hour to complete. The majority of this homework will be consolidating your understanding of the concepts taught in the lesson.



Assessment

The specification followed does not have a coursework element and is fully assessed by a written examinations:

Qualification	Component	Overview	Assessment
AS level Mathematics	Paper 1: Pure Mathematics 1	Content aligned to Paper 1 of A level Maths, assessed at AS level standard	🕒 2 hours ✍️ 100 marks
	Paper 2: Applied Mathematics	Section A: Statistics (30 marks) Section B: Mechanics (30 marks)	🕒 1 hour 15 min ✍️ 60 marks
A Level Mathematics	Paper 1: Pure Mathematics 1	AS content assessed at A level standard	🕒 2 hours ✍️ 100 marks
	Paper 2: Pure Mathematics 2	Remaining pure content which builds on and incorporates AS content	🕒 2 hours ✍️ 100 marks
	Paper 3: Applied Mathematics	Section A: Statistics (50 marks) Section B: Mechanics (50 marks)	🕒 2 hours ✍️ 100 marks



Who is successful at A Level Maths?

The most successful students are those who take responsibility for their learning. They are students who see homework as a minimum and who do extra work to make sure they fully understand what they are studying. They don't skip over the questions they can't do. They tackle their issues as soon as they happen and don't ignore the problems they have. They are willing to talk to their teachers about the things they find tricky and will ask for help when they need it.

Ultimately, we want all students who choose Mathematics A level to be successful and thrive. This not only requires a passion for the subject but a determination and commitment to learning.

