

MATHEMATICS & FURTHER MATHEMATICS

“Math is the language of the universe. So the more equations you know, the more you can converse with the cosmos.”

Neil deGrasse Tyson

Current Teaching Staff:

Mrs Z Carpenter Kay - Head of Department
Miss S Bucklar, Mr N Hedden, Mrs S Jones,
Mr D Whittington, Miss A Wearden

Examination board and syllabus: Edexcel

Results Summer 2025:

Mathematics – A*-B: 70%

Further Mathematics – A*-B: 100%

Entrance requirements:

For Mathematics - At least a Grade 7 in Mathematics at GCSE Higher level.

For Further Mathematics - At least a Grade 8 in Mathematics at GCSE Higher level.

The Courses

The exam board is Edexcel. The course will consist of Pure and Applied content, where two thirds is pure and one third is applied. Students are taught by two teachers, both of which will teach pure content and one part of the applied. The applied content is split into Statistics and Mechanics. Year 1 will be mostly the AS work and then Year 2 will be the A-Level content. The course is designed to enrich and extend the students' knowledge and understanding of Mathematics.

Specifically, we aim to enable students to:

- Understand mathematics and mathematical processes in a way that promotes confidence, fosters enjoyment and provides a strong foundation for progress to further study.
- Extend their range of mathematical skills and techniques.
- Understand coherence and progression in mathematics and how different areas of mathematics are connected.
- Apply mathematics in other fields of study and be aware of the relevance of mathematics to the world of work and to situations in society in general.
- Use their mathematical knowledge to make logical and reasoned decisions in solving problems both within pure mathematics and in a variety of contexts, and communicate the mathematical rationale for these decisions clearly.

Examinations

Three two hour papers sat at the end of year 13.

Two pure papers plus one applied paper which is split evenly between statistics and mechanics.

Support

We are very fortunate as a department to have extremely well qualified teachers each with many successful years of experience teaching Advanced Level Mathematics who go above and beyond to support their students throughout the A-Level course.

We offer 1:1 support throughout the two years, as well as clinics to support the students outside of the classroom.

We use a variety of resources, ranging from textbooks to online sites such as Dr Frost to complement the outstanding teaching.

Enrichment Opportunities

- Students have the opportunity to take part in the UK National Maths Challenge at senior level in both year 12 and 13.
- Leadership positions are available within the department and allow the students to explore their qualities outside of classroom, including mentoring and supporting younger students.
- University events with Mathematics at its core, looking at encouraging students into STEM.
- Problem solving events run by the Advanced Maths Support Programme.
- Support for entrance exams such as the Oxford MAT and university interviews.
- Organising and running a problem solving club for students in the lower school to inspire them to have a love of Mathematics.

CAREERS

Some of the many careers that you can do with an A-Level in Maths are:

Medical Statistician, Machine Learning Expert, Cyber Security Expert, Accountant, Environmental Statistician, Mathematical Modeller, Operational Researcher, Data Analyst, Mathematical Biologist, Underwriter, Engineer, Pure Mathematics Researcher, Trader, Software Engineer, Computer Programmer, Pilot, Economist, Quantity Surveyor, Actuary, Logistics Manager, Astronomer, Games designer, Patent Attorney, AI Professional, Meteorologist, Cryptographer, Nuclear Scientist, Teacher, Mathematician.