

Why study A level Mathematics?

- Maths is exciting and beautiful
- Maths makes you desirable
- Maths is the language of the universe
- Maths teaches you logical thought

Mathematics AS and A2

Entry Requirements:

Minimum grade of B at GCSE
Mathematics

AS Mathematics

Pure Core 1 + Pure Core 2 + Applied

Pure Mathematics is compulsory. It builds on GCSE and extends to areas of mathematics such as Calculus. Pure Mathematics helps develop in students the ability to reason logically, to generalise and to construct mathematical proofs.

Topics to be studied in the Pure syllabus
include:

- Core 1: Algebra, Coordinate Geometry, Differentiation, Integration
- Core 2: Algebra and Functions, Sequences and Series, Trigonometry, Exponentials and Logarithms, Differentiation, Integration

Applied Mathematics: Students choose either Statistics or Mechanics or Decision Mathematics.

Students choose which option to take at the start of the course in September.

Statistics is concerned with the collection, analysis and interpretation of data.

Topics to be studied in the Statistics syllabus S1 include: Numerical measures, probability, Binomial Distribution, Normal Distribution and Correlation and Regression.

Mechanics consists of applying mathematics to forces and motion.

Topics studied in the Mechanics syllabus M1 include: Kinematics in One and Two Dimensions, Statics and Forces, Momentum, Newton's Laws of Motion, Connected Particles, Projectiles

Students taking AS Physics should take the Mechanics option as there is some overlap between the two courses.

Decision Mathematics is concerned with using and applying algorithms to various practical situations.

These algorithms may be concerned with finding the shortest route from one place to another, or with finding the most cost-effective way of delivering parcels to a number of different cities.

Time Allocation:

11 lessons (each of 50 minutes) over the fortnight.

7 lessons of Pure Mathematics, 4 lessons of Applied.

Students are expected to spend as much time studying maths outside lessons as in lesson time.

Currently 58 students are taking AS Mathematics.

Three groups of Pure Mathematics

One group each of Statistics, Mechanics and Decision Maths.

Assessment

- 3 written papers: C1 + C2 + (S1 or M1 or D1)
- Students take C1 in January
- Each counts for $33\frac{1}{3}\%$
- Each paper lasts 1 hour 30 minutes
- There is no coursework

Further Mathematics AS (and A2)

Entry requirements:

Minimum of grade B at GCSE Mathematics however you need to be very confident mathematically and have very good algebra skills.

Ask your maths teacher if he/she thinks you are suited to it.

Students must also take Mathematics at AS (and A2)

- More modules are available so that students broaden their mathematical experience
- At AS Further Mathematics, students take:
Further Pure Mathematics (FP1) plus any two from Decision Mathematics (D1), Statistics (S1) or Mechanics (M1) - depending which they take in the Mathematics course