

A-Level Mathematics

In years 12 and 13, we offer two courses which have a common core of Pure Mathematics. We use the [MEI](#) syllabus, which is examined by the [OCR examination board](#).

Year 12 AS Mathematics

In year twelve, all students study the Core 1 and Core 2 modules, which cover algebra, coordinate geometry, indices, logarithms, sequences, trigonometry and the foundations of differential and integral calculus. Students choose a third module of Mechanics or Statistics.

Mechanics involves the study of motion, including displacement, velocity and acceleration. Newton's Laws are used to link forces and motion, and this is extended to include motion in two of three dimensions using vectors.

In Statistics, study is made of the graphical representation of data and of measures of central tendency and spread. Probability is studied and extended to include knowledge of the binomial distributions, where hypothesis testing is introduced.

There are three modular examinations, which are normally held in May.

Year 13 A2 Mathematics

Students who have enjoyed and succeeded in AS Mathematics often choose to extend their study to A2 level: a full A-Level.

There are two Core modules, C3 and C4, which cover functions, further work on calculus, the binomial theorem, vectors and parametric equations. In C3, there is a coursework element relating to the solution of equations using numerical methods.

In Mechanics 2, study is made of friction, centres of mass, energy, momentum and frameworks.

Statistics 2 covers the Poisson and Normal distributions, sampling, hypothesis testing and correlation.

Again, there are three modular examinations, which are normally held in June.

AS Further Mathematics

For the more able students, further modules can be studied, which lead to another AS qualification.

There are three modules, of which Further Pure 1 (FP1) must be one. This includes the study of matrices, complex numbers, inequalities, algebraic identities, and proof by induction.

The other two modules can be any module, which has not already been included in a student's A2 qualification.

This course involves a substantial amount of independent study and is usually spread over two years.