

Mathematics & Further Mathematics

Examination Board: OCR

Why study Mathematics?

The study of Mathematics at this level is generally undertaken by students who enjoy the unique aspects of this subject: the disciplined approach to problem solving, mathematical modelling of real life problems and the development of new, more precise mathematical methods.

It is clearly beneficial to all students embarking on science or related subjects at A-level. It can be successfully combined with a wide variety of other subjects but some students find it more difficult if they are not using their maths skills in other disciplines. The study of Mathematics is beneficial and in some cases essential if you wish to go on to study any of the following courses at university: Mathematics; Science; Engineering; Business Studies; Economics; Geography; Medicine; Veterinary Science; Accountancy; Social Science and many more.

Entry Requirements

To embark on an A-level or AS-level course it is essential for students to have followed the higher level GCSE or the Extended IGCSE syllabus as these contain core knowledge for the A-level.

Subject Specification

During the course there are three areas of study:

Core Mathematics: The Core Maths syllabus covers more advanced treatment of Trigonometry, Functions, Vectors, Algebra and Coordinate Geometry, with an introduction to Calculus, Series and Numerical Methods.

Applications/Statistics: The Statistics syllabus introduces the ideas of Probability Distributions, Permutations and Combinations, Correlation and Regression Analysis.

Mechanics: The Mechanics syllabus includes an introduction to Kinematics, Forces and Equilibrium, Newton's Laws, Variable Acceleration and Momentum.

All Lower Sixth Mathematics students follow a common course. In Upper Sixth, those students studying Biology, Geography or Business may find the Statistics option more suitable for their future needs, those studying Physics or Design may find the Mechanics option more suitable.

A-level Mathematics is examined through six modules. An AS qualification can be gained by completing three modules. The AS qualification is completed during the Lower Sixth year. Two combinations leading to A-level are available as follows:

Either: Modules

Core Maths 1, Core Maths 2, Statistics 1 in the Lower Sixth
and

Core Maths 3, Core Maths 4, Statistics 2 in the Upper Sixth

or: Modules

Core Maths 1, Core Maths 2, Statistics 1 in the Lower Sixth
and

Core Maths 3, Core Maths 4, Mechanics 1 in the Upper Sixth

Each of the modules is examined through a written paper lasting 1hr. 30 mins. Modules are examined in June only.

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