

Further Mathematics

About the course

Further Mathematics is an AS/A Level qualification which both broadens and deepens the mathematics covered in AS/A level Mathematics. AS level Further Mathematics is designed to be taught alongside AS level Mathematics in Year 12. Any student planning to take a mathematics-rich degree (this covers a very wide range of academic areas - Engineering, Sciences, Computing, Finance/Economics, etc. as well as Mathematics itself) will benefit enormously from taking Further Mathematics, at least to AS level. AS Further Mathematics introduces new topics such as matrices and complex numbers that are vital in many mathematics-rich degrees. Students who have studied Further Mathematics find the transition to such degrees far more straightforward. Studying Further Mathematics also boosts your performance in AS/A-level Mathematics.

To study Further Mathematics at advanced level you **must** be studying A level Mathematics, and should have the top grades from GCSE Mathematics. The course is based on the modular Edexcel scheme.

There are **two modules** for the AS Level:

FP1: Further Pure Mathematics 1 –

Proof, complex numbers, matrices, further algebra and functions, further calculus, further vectors

The second AS paper will be **one** of the following:

2A: Further Pure Mathematics 2

Complex numbers, further algebra and functions, further calculus, polar coordinates, hyperbolic functions, differential equations

2B: Further Statistics

Linear regression, statistical distributions (discrete), statistical distributions (continuous), correlation, hypothesis testing, Chi squared tests

2C: Further Mechanics

Momentum and impulse, collisions, centres of mass, work and energy, elastic strings and springs

2D: Decision Mathematics

Algorithms and graph theory, algorithms on graphs, critical path analysis, linear programming.

You should only be choosing Further Mathematics if you are also taking AS Mathematics



***Pure mathematics is,
in its way, the
poetry of logical
ideas***

Albert Einstein

How it will be assessed

The course is externally assessed by two examinations of 1 hour 30 minutes each, to be taken in the summer of Year 12. Both are weighted at 50% of the final mark.

What it prepares you for

Further Mathematics qualifications are highly regarded and are strongly welcomed by universities. Students who take Further Mathematics are really demonstrating a strong commitment to their studies, as well as learning mathematics that is very useful for a maths-rich degree.

