

Further Mathematics A Level at Paston

Awarding Body OCR (MEI)

Further mathematics is a challenging subject that can be added to a single maths A level to give you two A levels. In it you investigate more abstract and apparently impossible ideas (like the square root of -1) that allow you to move towards a more complete understanding of the structure of algebra and the many links between apparently unlinked ideas (the square root of -1 comes up in electrical circuits).

In further mathematics you will develop your skills to work with more complex sets of numbers and use them to solve complicated problems in 3 dimensions, or draw elegant graphs. It will satisfy and challenge the way that you see mathematics and take you beyond straightforward numbers.

At Paston we encourage a thorough and rigorous approach to the subject and aim for a real profound understanding of the concepts that underpin the structure.

Students say

Rachel Tate: "I particularly like the pure maths, but everything's good"

Here is a chance to become a seriously well-qualified mathematician. If you go on to study a mathematical subject at university, then your further mathematics background will support you superbly well. At Paston, you will be part of a small and focussed further mathematics group, and you will study some useful and interesting maths at a high level.

Daniel Smith and Jonathan Reynolds both studied further maths at Paston. They both went to UEA to do maths, both came top in their year, and have now both completed maths PhDs.

AS Further Mathematics

In the AS further mathematics course, you will study:
further pure mathematics:

- Complex number – Working with the square root of -1 .
- Matrices – packages of numbers and how to work with them,
- Thorough mathematical proof,
- Describing points on a graph like using a radar screen.
- Working with complicated series.
- You will also take the other AS mathematics unit (see above) and Statistics.

Assessment

- Three 1½ hour examinations.

Entry requirements (agreed with RJ)

- At least 5 GCSEs at grade A*-C, including mathematics at grade A, or the equivalent.
- You must also be studying AS or A2 mathematics.

A2 Further Mathematics

In further pure mathematics 2 and 3: you will develop the ideas begun in further pure 1 to a much deeper and rigorous level.

- Polar curves (drawn on a radar type graph).
- More calculus.
- More complex numbers – how they link with functions like sine.
- More matrices – moving into 3 dimensions.
- Hyperbolic functions.
- Vectors in 3D.
- Groups – a new way of organising ideas

You will also take one other AS/A2 mathematics optional unit. From the A2 specification.

Assessment

- Three 1½ hour written examinations.

Entry Requirements

We will expect you to have achieved at least a grade D at AS in this subject
You must be studying A2 mathematics

