



FURTHER MATHEMATICS

QUALIFICATION: A Level

EXAM BOARD: Edexcel

COURSE LEADER:
Mr Joyce

“The Further Maths Course was the best thing I did in the Sixth Form. I found that the course not only gave me an advantage over other students when applying for university places, but it also really helped my understanding of Maths and made everything on the A Level Maths course seem so much easier.”

COURSE CONTENT

Further Mathematics aims to extend students beyond their usual expectations of the subject. They are required to use their mathematical knowledge to make logical and reasoned decisions in solving problems both within pure mathematics and in a variety of contexts and communicate the mathematical rationale for these decisions clearly. Much greater time is given to discussing questions and developing problem solving strategies to deal with abstract concepts.

Mathematics studied in this course will stretch the most able students and it is ideal if you aim to study Maths, Physics, Engineering or Economics at University level.

Content Overview

Pure:

- Topic 1 – Proof
- Topic 2 – Complex numbers
- Topic 3 – Matrices
- Topic 4 – Further algebra and functions
- Topic 5 – Further calculus
- Topic 6 – Further vectors
- Topic 7 – Polar coordinates
- Topic 8 – Hyperbolic functions
- Topic 9 – Differential equations

Option 1 Papers

- 3A Further Pure 1
- 3B Further Statistics 1
- 3C Further Mechanics 1
- 3D Decision 1

Option 2 Papers

- 4A Further Pure 2
- 4B Further Statistics 2
- 4C Further Mechanics 2
- 4D Decision 2

Students choose a pair of options, either:

- any two Option 1 papers, or
- a matching pair of Option 1 and Option 2 papers

PREPARATION FOR STUDYING THIS SUBJECT

- Over Year 11 and during the summer after your GCSEs take the time to look over your notes, as the material learned in years 10 and 11 will be a starting point for this course. This is particularly important for your algebraic manipulation.
- Revisit your notes from Physics GCSE as this will support the start of the mechanics element of the course.
- Take part in the UKMT Mathematics Challenge to work through problem solving.

ASSESSMENT

All content is assessed in Year 13 and will combine different areas of mathematics. There are 3 examinations, each 1 and a half hours in length.

Paper 1 and Paper 2 may contain questions on any topics from the Pure Mathematics content.

For Paper 3 students have the choice of two optional modules and can select from Mechanics, Statistics, Decision or Further Pure mathematics.

FUTURE OPPORTUNITIES

- Sheffield Hallam University - Mathematics
- Nottingham Trent University - Mathematics
- University of Sheffield - Physics
- Aston University - Business & Maths
- Cambridge University - Engineering

ENTRY REQUIREMENTS

Full entry requirements can be found on our website. Please ensure you check these as some courses have subject specific requirements that must be met in addition to the general entry requirements to join our Sixth Form.

