



A-level Further Maths

Board and Specification: **Edexcel AS further Mathematics**
Staff: **Mr Simon Reid (KS5 Coordinator)**

Subject specific entry requirements:

- Grade 9 in GCSE Mathematics
- Students should be fluent in both their numeric, algebraic and trigonometry skills from GCSE. Before starting the course, students will have completed the A-level Further Mathematics induction booklet.
- The ultimate decision as to whether a student takes Further Mathematics will be taken by the Mathematics department, on an individual basis.
- You will be expected to purchase a Casio fx-991EX Classwiz calculator

What skills are required of students?

Recall of learnt facts, application of new skills, extracting information from texts deciphering “what do I need to do?” problem solving, use of a calculator, formal written methods, interpretation of solutions, choosing the most efficient method, communicating methods clearly, drawing appropriate diagrams, identifying alternative methods of solution, checking the ‘reasonableness’ of their answer.

Modules titles and codes:

Students will sit 4 papers in Summer 2021 Each paper is a written examination worth 25% of the qualification. Examinations are 1 hour 30 mins.

Paper 1: Core Pure Mathematics 1 (*Paper code: 9FM0/01)

Paper 2: Core Pure Mathematics 2 (*Paper code: 9FM0/02)

Paper 1 and Paper 2 Content: Proof, Complex numbers, Matrices, Further algebra and functions, Further calculus, Further vectors, Polar coordinates, Hyperbolic functions, Differential equations.

Paper 3: Further Mathematics Option 1 (*Paper codes: 9FM0/3A-3D)

Students take one of the following four options:

- A: Further Pure Mathematics 1
- B: Further Statistics 1
- C: Further Mechanics 1
- D: Decision Mathematics 1

Paper 4: Further Mathematics Option 2 (*Paper codes: 9FM0/4A-4G)

Students take one of the following seven options:

A: Further Pure Mathematics 2

B: Further Statistics 1

C: Further Mechanics 1

D: Decision Mathematics 1

E: Further Statistics 2

F: Further Mechanics 2

G: Decision Mathematics 2

What kinds of work will you do in class and at home?

Home learning tasks could involve embedding the learning from the lesson using questions from text books or worksheets from alternative resources or from past papers. Tasks could also involve pre-reading or revision in preparation for a test or research into a topic. On occasion, students may be asked to prepare a task or an activity that will be used in a subsequent lesson.

The content of the A level Further Mathematics course is delivered over 2 years in lessons and through home learning tasks with examinations being sat at the end of Year 13. Students will be assessed regularly to track progress.

What other A-levels does your subject connect well with?

Psychology, Geography, Physics, Chemistry, Biology, Business and Computing. In some instances, there is a direct overlap in the contents such as with forces, studied in Physics A-Level and statistical testing which features in Psychology A-level.

What types of university course will be helped by this A-level?

There are many university courses that require mathematics at A-level including: actuarial studies, engineering, chemical engineering, computing, dentistry, environmental and earth sciences, economics, electronic engineering, pharmacy, physics and of course mathematics and statistics. A level Further Mathematics is a qualification very much sought after by universities offering a degree in mathematics or engineering.

Demand for jobs with Science, Engineering and Technology skills is increasing enormously and these jobs require maths skills. Highly numerate disciplines are in great demand from employers and young people with maths qualifications and degrees will find that their degrees can open doors to exciting and rewarding careers.