



A level

Further Mathematics A2

**What will I learn?**

Further Mathematics is designed for the student who has studied Mathematics to a high standard at GCSE and intends to study a degree programme which may contain a high mathematical content, either as a pure subject or within such disciplines such as physics, engineering and technology.

Students will be expected to develop their understanding of the process of mathematical modelling through the study of mathematical methods and to use these skills to:

- Abstract from a real situation
- Solve problems
- Interpret and communicate results

4 exams at the end of the year (no coursework)

**A2 level:**

**Paper 1 – Pure Core 1**

**Paper 2 – Pure Core 2**

**Paper 3 – Statistics**

**Paper 4 – Mechanics**

**What could this course lead on to?**

Mathematics is not regarded as easy but is well respected. At the end of the course students will have improved their analytical skills, become more independent learners and better at problem solving. These skills and the knowledge developed on the course are highly regarded by Higher Education courses and potential employers.

**Career Opportunities:**

Accountancy, banking, engineering, teaching, computer science, financial consultant, actuary, marketing consultant.

**Entry Requirements A2:**

The aim of this course is to build on the knowledge, understanding and skills established at GCSE and AS Further Maths.

It is important that students have at least a grade 8 in Mathematics GCSE and a grade C or above in AS Further Maths.

In addition to this, it will require a great deal of work and time over the course to succeed. An aptitude for algebra is vital at this level.

**Key content and assessment**

Key content and assessment		
Title		Style of Assessment
<b>Papers 1 and 2 – Pure</b>	Complex numbers; Further Algebra; Further vectors; Matrices; Proof; Series; Hyperbolic functions; Further calculus; Polar coordinates.	All units are externally assessed by a written examination of duration 90 minutes carrying a total of 75 marks. The weighting of each unit is 25% contributing to A2 GCE certification. All papers allow the use of a graphical calculator.
<b>Paper 2 – Statistics</b>	Probability; Discrete and continuous Random Variables; Chi-Squared Tests; Correlation, Linear Regression; Statistical Hypothesis Testing.	
<b>Paper 3 – Mechanics</b>	Dimensional Analysis; Work, Energy and Power; Impulse and Momentum; Motion in a Circle; Centre of mass; Further dynamics and kinematics.	

**Course Details**

**Awarding Body:** OCR

**Website Specific Number:** H245 **Website:** [www.ocr.org.uk](http://www.ocr.org.uk)

**Staff Contact:** Mr J Hough