

## ***Why Study A level Maths and Further Maths?***

### **Five Good Reasons**

#### **One – Career Opportunities**

Mathematics and Further Mathematics are versatile qualifications, well-respected by employers and are both “facilitating” subjects\* for entry to higher education. Careers for men and women with good mathematics skills and qualifications are not only well paid, but they are also often interesting and rewarding. People who have studied mathematics are in the fortunate position of having an excellent choice of career. Whilst the number of young people studying A level Mathematics and Further Mathematics is increasing there is still a huge demand from science, engineering and manufacturing employers.

#### **Two – Employability Skills**

The reason why so many employers highly value mathematics qualifications is mathematics students become better at thinking logically and analytically. Through solving problems you develop resilience and are able to think creatively and strategically. The writing of structured solutions, proof and justification of results help you to formulate reasoned arguments. And importantly you will have excellent numeracy skills and the ability to process and interpret data.

#### **Three – Preparation for Higher Education**

For progression to many courses at university it is important to have strong mathematics skills. For most science, technology, engineering and mathematics (STEM) degree course A level Mathematics is a requirement and AS or A level Further Mathematics is often a preferred subject. Anyone applying to study a degree in a STEM subject should consider taking Further Mathematics to at least AS level as the additional content helps ensure a successful progression to university. AS Further Mathematics is accessible to most A level Mathematics students. Having A level Further Mathematics on your university application is a way to make it stand out.



*“Those students who had studied further mathematics to A- or AS-level standard reported coping better with the mathematical content of the degree, and as such perceived that they required less additional support throughout their studies.”* Institute of Physics ‘Mind the Gap’ report 2010

*“In general, [it’s] harder than expected, especially the mathematical aspects. I felt thoroughly unprepared for the mathematics involved coming from only having maths (no further maths) A-level. My peers who did study further maths were much better prepared.”* Engineering student

\* The Russell Group of leading UK universities published a guide to post-16 subject choices, [Informed Choices](#). It describes Mathematics and Further Mathematics as *facilitating subjects*.

## Four – Supporting Other Subjects

The mathematical skills you learn in A level Mathematics are of great benefit in other A level subjects such as physics, chemistry, biology, computing, geography, psychology, economics and business studies.

Studying A level Further Mathematics is likely to improve your grade in A level Mathematics. The extra time, additional practice, further consolidation and development of techniques contribute to improved results in A level Mathematics

## Five – An Interesting Course

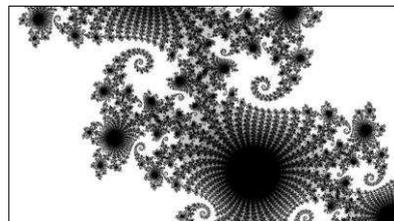
**A level Mathematics** is an interesting and challenging course which extends the methods you learned at GCSE and includes optional applications of mathematics, such as Statistics, Mechanics and Decision Mathematics.

**Statistics** – Collecting and analysing data and using this to make predictions about future events. Many subjects make use of statistical information and techniques. An understanding of probability and risk is important in careers like insurance, medicine, engineering and the sciences.

**Mechanics** – Modelling and analysing the physical world around us, including the study of forces and motion. Mechanics is particular useful to students studying physics and engineering.

**Decision** –Using algorithms and other methods to find efficient solutions to real life problems, such as finding the shortest route around a network. The techniques are important in business, logistics and computer science.

**A level Further Mathematics** is fun and rewarding. It broadens your mathematical skills and promotes deeper mathematical thinking. You will be introduced to interesting new areas of pure mathematics such as complex numbers and apply mathematics in a wider range of contexts.



## Further Information

Discuss with your mathematics teachers the options available for studying mathematics in the sixth-form.

These websites provide useful additional advice and information about mathematics, careers and universities courses.

- [www.mathscareers.org.uk](http://www.mathscareers.org.uk)
- [www.futuremorph.org](http://www.futuremorph.org)
- [www.plus.maths.org](http://www.plus.maths.org)
- [www.furthermaths.org.uk](http://www.furthermaths.org.uk)