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 subject*s.

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

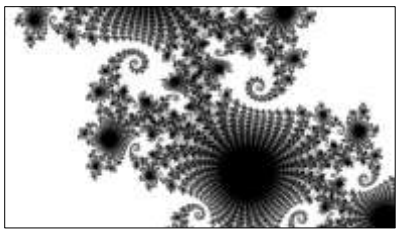
Five – An Interesting Course

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

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 and mathematical modelling is used to apply mathematics in many different areas, such as biology, economics, and geography.

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, which may include Decision or Discrete Mathematics or further Statistics and/or further Mechanics.



Decision or Discrete Mathematics – 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.

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
- www.futuremorph.org
- www.plus.maths.org
- www.furthermaths.org.uk