



"Mathematics has beauty and romance. It's not a boring place to be. It's an extraordinary place; it's worth spending time there."

Marcus du Sautoy

Entry Requirements

5 GCSEs at grade 5 or above.
Grade 4 in English and Maths.

Subject Specific Requirements

Grade 7 in Maths.

About the Course

You need to have achieved at least a grade 7 in your GCSE Mathematics. You will also have to be studying Mathematics at A Level.

Further Mathematics at A level is a course worth studying in its own right. It is challenging but interesting. It builds on work you will meet during A Level Maths, but also involves new ideas. A worthwhile course if you have a strong interest in Mathematics, or are going on to study Mathematics related degree courses.

While studying Further Mathematics you will be expected to:

- Use mathematical skills and knowledge to solve problems.
- Solve quite complicated problems by using mathematical arguments and logic. You will also have to understand and demonstrate what is meant by proof in mathematics.
- Simplify real life situations so that you can use mathematics to show what is happening and what might happen in different circumstances.
- Use the mathematics that you learn to solve problems that are given to you in a real-life context.
- Use calculator technology and other resources (such as formulae booklets or statistical tables) effectively and appropriately; understand its limitations and when it is inappropriate to use such technology.

Assessment

Further Mathematics at A level includes more pure maths as well as a selection of applied exams students can take:

The majority of assessment will cover the pure elements of further mathematics. When studying pure mathematics you will be extending your knowledge of such topics as trigonometry and calculus as well as introducing new topics like complex numbers and Matrix Algebra. If you enjoyed the challenge of problem solving at GCSE using such mathematical techniques then you should find the prospect of this course very appealing.

Although many of the ideas you will meet in pure mathematics are interesting in their own right, they also serve as an important foundation for other branches of mathematics, especially mechanics and statistics.

Alongside the pure side of the course, you will also study for an applied assessment, Decision maths. You will be looking at graphs, networks and algorithms to solve problems, for example, minimal route problems. Decision maths is becoming an increasingly popular because of its applications to computer science. Many of the problems involve Optimisation – finding an efficient solution – and hence methods are applicable to many real world situations

Future Applications

*In previous years, students studying Further Mathematics have chosen courses such as:
Mathematics, Medicine, Mechanical, Civil or Electrical Engineering, Aeronautical Design, Systems Engineering and Biomechanical or Chemical Engineering. All universities running Science Engineering / Design based courses would consider Further Mathematics to be a valuable asset.*

Alumni

Hannah (Queens Prize winner studied Maths at Warwick), Darion (Queens Prize winner studied Maths at Cambridge), Marcus (turned down Oxford to work for Rolls-Royce), Jon (Queens Prize winner studied Maths at Oxford), Ben (Studied Maths at Durham) + many more studying Medicine, Law, Chemical Engineering etc.