FURTHER MATHEMATICS

Exam Board: Edexcel

Course Content

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 and apply mathematics in a wider range of contexts. Studying further mathematics is likely to improve your grade in A level mathematics. The extra time, additional practise, further consolidation and development of techniques, contribute to improved results in A level mathematics. *"Those students who had studied further mathematics to A or AS-level standard reported coping better with the mathematical content of the degree,"* Institute of Physics 'Mind the Gap' report 2010.

You will study fascinating new areas of mathematics in core pure such as complex numbers, differential equations, and matrices. You will also study applied subjects such as mechanics or statistics in more detail, or decision mathematics, which uses algorithms and other methods to find efficient solutions to real life problems, such as finding the shortest route around a network. The exact subjects taken will be tailored to student's interests.

Assessment

4 exams of 90 minutes each
Each has 75 marks and is worth 25% of the total.
Papers 1 and 2 are Core Pure papers
Papers 3 and 4 will assess the optional subjects, which can be chosen from a wide range of modules such as decision maths, further mechanics, further statistics or further pure.

Career Opportunities

Further mathematics gives an insight into real applications of mathematics including computer science (decision maths), population models (further statistics) and aerodynamics (further mechanics). Decision mathematics techniques are important in business, logistics and computer science. Studying further mathematics gives you advanced problem solving skills and fosters perseverance and logical thinking. You will learn to work with others to solve problems and to think independently. For most science, technology, engineering and mathematics (STEM) degree courses, 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. Further mathematics is a highly regarded facilitating subject which will be an asset if you wish to apply to Oxbridge or other Russell group universities.

Suggested Reading

Euler: The Master of Us All (William Dunham)