

MATHEMATICS

Subject Overview

Mathematics provides skills in demand across a wide range of careers. Employers value numeracy, clarity of thought and the capacity for logical argument that the study of Mathematics develops. It has always been the foundation of the physical sciences and it now plays a major role in the life sciences and in such disciplines as Economics, Computer Science and Psychology. Mathematics will open many doors in life after the Sixth Form.

Core (Pure) Mathematics:

When studying Pure Mathematics students will be extending their knowledge of such topics as algebra and trigonometry, as well as learning some brand new ideas such as calculus. Having enjoyed the challenge of problem solving at GCSE using such mathematical techniques, students should find the prospect of this course very appealing. Although many of the ideas met in Pure Mathematics are interesting in their own right, they also serve as a vital foundation for the other branches of mathematics that we study.

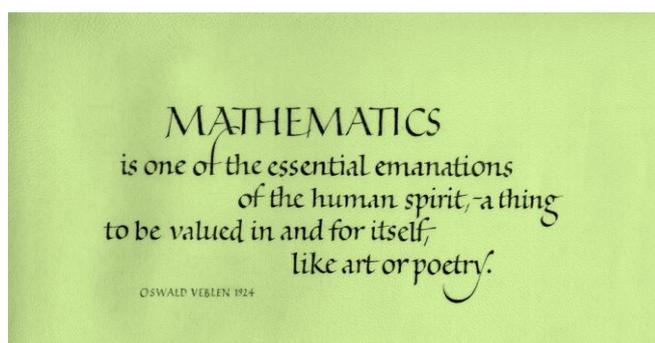
Statistics:

When learning about Statistics students will discover how to analyse and summarise numerical data in order to arrive at conclusions about it. They will extend the range of probability problems that they started for GCSE by using new mathematical techniques studied in the pure mathematical modules. Many of the ideas that are met in this course have applications in a wide range of other fields – from assessing how much car insurance is going to cost to how likely the earth is going to be hit by a comet in the next few years. Many of the techniques are used in sciences and social sciences. In today's society we are bombarded with information (or data) and the Statistics units will give you useful tools for looking at this information critically and efficiently.

Further Mathematics is an extension of the A-level Mathematics course. Further modules in Core Maths, Statistics and Mechanics are studied, exploring wider themes and developing a broader, more in depth understanding and a more sophisticated solving ability. This course is recommended for those students who wish to study Mathematics in Higher Education.

Further Maths and Mechanics:

Studying Mechanics shows students how to describe mathematically the motion of objects and how they respond to forces acting upon them, from cars in the street to satellites revolving around a planet. The technique of mathematical modelling, turning a complicated physical problem into a simpler one that can be analysed and solved, is clearly an important part of the study of Mechanics. Many of the ideas that are met in the course form an almost essential introduction to important modern fields of study, such as cybernetics, robotics, biomechanics and sports science, as well as the more traditional areas of engineering and physics. The study of one or more of the Mechanics units will enable you to use the mathematical techniques which you learn in the Core units to help you to produce solutions to these problems.



Modules Required	AS	A2
Mathematics	2 Core and 1 Applied	2 Core and 1 Applied
Further Mathematics	1 Further Pure and 2 Applied	1 or 2 Further Pure and 1 or 2 Applied

Exam Board 

Student Profile

Name: Syan P

University Choices:

Engineering - Loughborough,
UCL, Bath, Southampton, Leicester



Quote:

I enjoy studying maths at A level because of the immense satisfaction I gain when solving challenging problems and looking through my working-out which had come together to present a final answer. Looking back at Year 11, I never saw myself doing A-level maths but now see I had underestimated myself. Having the right mindset and putting all the hard work in has given me rewarding results. It has made me feel like one of those clever people who I never felt myself to be : I am now on the right path to achieve my full potential.