



Mathematics

Subject Information Sheet

Course Title:	Mathematics
Subject:	Mathematics
Qualification:	A level
Exam Board:	Edexcel
General Course Description	<p>Mathematics at AS and Advanced GCE is a course worth studying not only as a supporting subject for the physical and social sciences, but in its own right. It is challenging but interesting. It builds on work you will have met at GCSE, but also involves new ideas produced by some of the greatest minds of the last millennium.</p> <p>While studying mathematics you will be expected to:-</p> <ul style="list-style-type: none">• Use mathematical skills and knowledge to solve problems• Solve 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 calculator limitations and when it is inappropriate to use such technology. <p>When studying pure mathematics at A level you will be extending your knowledge of such topics as algebra and trigonometry as well as learning some brand new ideas such as calculus. While 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.</p>

	<p>Mechanics deals with the action of forces on objects. It is therefore concerned with many everyday situations, e.g. the motion of cars, the flight of a cricket ball through the air, the stresses in bridges, the motion of the earth around the sun. Such problems have to be simplified or modelled to make them capable of solution using relatively simple mathematics. Many of the ideas you will meet in the course form an almost essential introduction to such important modern fields of study such as cybernetics, robotics, bio-mechanics and sports science, as well as the more traditional areas of engineering and physics.</p> <p>When you study statistics you will learn how to analyse and summarise numerical data in order to arrive at conclusions about it. You will extend the range of probability problems that you looked at in GCSE using the new mathematical techniques learnt in the pure mathematics units. Many of the ideas in this part of the course have applications in a wide range of other fields, from assessing what your car insurance is going to cost to how likely it is that the Earth will be hit by a comet in the next few years. Many of the techniques are used in sciences and social sciences. Even if you are not going on to study or work in these fields, 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.</p>
Course Content and Teaching Units	Course will comprise of a mixture of core, mechanics and statistics. 2/3 of the course will be core topics with 1/3 applied (mixture of statistics and mechanics).
Entry Requirements	6 in GCSE Mathematics
Assessment	All examined across three equally weighted papers at the end of two years.
Financial Information	Recommended calculator costs about £18. Textbooks are lent to students for a refundable deposit of £5.

<p>Progression Opportunities</p>	<p>An A Level in mathematics is very valuable as a supporting subject to many courses at and degree level, especially in the sciences and geography, psychology, sociology and medical courses.</p> <p>A Level mathematics is a much sought-after qualification for entry to a wide variety of full-time courses in higher education. There are also many areas of employment that see a Mathematics A Level as an important qualification and it is often a requirement for the vocational qualifications related to these areas.</p> <p>Higher Education courses or careers that either require A level mathematics or are strongly related include:-</p> <ul style="list-style-type: none"> • Economics • Medicine • Architecture • Engineering • Accountancy • Teaching • Psychology • Physics • Computing • Information and communication technology. <p>If you wanted to continue your study of mathematics after A Level you could follow a course in mathematics at degree level or even continue further as a postgraduate and get involved in mathematical research.</p> <p>People entering today's most lucrative industries such as IT, banking and the stock market need to be confident using mathematics on a daily basis. To be sure of this, many employers still look for a traditional mathematics A-level qualification. Researchers at the London School of Economics have recently found that people who have studied mathematics can expect to earn up to 11% more than their colleagues, even in the same job!</p> <p>Even in areas where pure mathematics isn't required, other mathematics skills learned at AS and A level, such as logical thinking, problem solving and statistical analysis, are often very desirable in the workplace. Mathematics is the new lingua franca of commerce, business and even journalism.</p>
<p>Further Information about our courses including results</p>	<p>In 2019 61% of Maths students gained an A*-B, with 45% getting A*/A and 100% A*-E</p>

Trips, visits and extra-curricular	Visits to Universities and talks from lectures and past Maths students who have gone onto be very successful at Russell Group Universities including Oxford and Cambridge.
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