

<h1>Mathematics</h1>	
Exam Board	Edexcel
Course Entry Criteria	7 in GCSE Maths
Essential skills	The emphasis at A level is on algebra: its manipulation, its use in representing problems and its relationships with graphs.
Year 12	<p>All students follow a course split into two sections; the major section covers pure mathematics and represents two thirds of the grade, the minor section covers applied mathematics and represents the remaining third of the grade. The course is tested with two examination papers of different lengths. The longer paper consisting of a 2 hour examination tests the students' ability in pure mathematics and the shorter paper consisting of a 1 hour examination tests the students' ability in applied mathematics.</p> <p>Pure Mathematics takes GCSE topics into more depth, for example indices, surds and quadratic equations. You will cover a huge quantity of calculus – differentiation and integration – and learn to become far more accurate with your calculations.</p> <p>Applied mathematics covers Statistics and Mechanics. You will recognise many of the GCSE Statistics topics such as probability and histograms but meet many new areas such as correlation, regression, the normal distribution and discrete random variables. Mechanics takes GCSE vectors as its starting point and applies them to the real world of acceleration, velocities and forces.</p>
Year 13	<p>All students continue to follow a split course of pure and applied mathematics, the weighting will be the same as at AS level with a 2:1 split. At A2-level students will sit 3 examinations, 2 pure examinations of 2 hours in duration and 1 applied examination also of 2 hours in duration.</p> <p>A2 Mathematics covers all of the AS Mathematics course but takes the course further, studying the material in more depth.</p>
University requirements	<p>Typical grade requirements to study a Mathematics degree are as follows:</p> <p>Oxbridge: A* A* A</p> <p>Russell Group: A* A A to A A B</p> <p>Non Russell Group: A B B</p>
Related courses and careers	Physics, Chemistry, Computing, Economics, Music Technology, Engineering, Architecture, Finance, Insurance, Software Design, Scientist, Armed Forces, Police
Other Details	<p>You will be asked to sit an assessment on Saturday 21st January 2017.</p> <p>The assessment does not require any knowledge of algebra beyond GCSE but it does assess your ability to use it and apply it in a way that will become routine at AS. It will assess your ability to link through problems and select appropriate techniques.</p> <p>The assessment is one hour long and you will not be allowed a calculator. Topics included are:</p> <ul style="list-style-type: none"> • Algebraic fractions • Graph sketching • Simultaneous equations including quadratic ones • Solving quadratic equations by factorisation or completing the square • Surds