Mathematics

This is a 2 year linear course with 3 2 hour papers in the summer of year 13. Every student who chooses mathematics A-Level will be tested on the same topics, Pure Mathematics, Statistics and Mechanics.
This new course will ensure that you have the skills and knowledge that both employers and universities are looking for, such as using technology to develop analytic skills through large data sets, develop the skills of problem solving and successfully use mathematical modelling. There will be opportunities to see the intrinsic links between the different areas of mathematics, and to transfer the skills to other subjects.

Entry Requirements

We are looking for students who have a passion for maths, who roll their sleeves up when it gets tough and are determined to be the best mathematician they can be. Ultimately we want you to be resilient and be able to work independently. At GCSE you will have a **grade 7** or above in Mathematics and at least a 5 GCSE passes at a minimum of grade 5.

What will you study?

You will study the following topics:

Pure Maths	Statistics	Mechanics
Proof	Statistical sampling	Quantities and units in mechanics
Algebra and functions	Data presentation and interpretation	Kinematics
Coordinate geometry in the (x,y) plane	Probability	Forces and Newton's laws
Sequences and series	Statistical distributions	Moments
Trigonometry	Statistical hypothesis testing	
Exponentials and Logarithms		
Differentiation		
Integration		
Numerical methods		
Vectors		

Throughout the above topics you must demonstrate the knowledge and skills of 'mathematical argument, language and proof', 'problem solving' and 'mathematical modelling'.