

# Mathematics

## MATHEMATICS DEPARTMENT

Head of Department: Miss L Jenkins

**Why choose the subject?** Discover more of the magic of Mathematics, the fascination of summing a series to infinity, the power of calculus, the mystery of real and imaginary numbers and the intricacies of permutations and combinations. These form part of the basic core of the syllabus with the addition of Mechanics and Statistics. In the Mechanics units, problems are formulated in response to given physical circumstances, in conjunction with Physics. The analysis of data and the prediction of results are studied in the Statistics unit which is particularly appropriate for those whose accompanying subjects are Economics, Geography and Biology. Mathematics is a fundamental subject and therefore there is always a demand for skilled mathematicians. Mathematics A-level will also pave the way for many careers.

**Who is eligible?** This course is intriguing and challenging for those mathematically inclined and it is strongly recommended that you have achieved at least a grade 7 or above in the GCSE examinations.

### A LEVEL QUALIFICATION

Year 2019/21 Advanced Level Award Examination Board: Edexcel	<b>UNIT 1</b>		
	Description of Subject Content	Pure Mathematics 1 Proof, Algebra and Functions, Coordinate Geometry, Sequences and Series, Trigonometry, Exponentials and Logarithms, Differentiation, Integration, Vectors, Numerical Methods.	
	Length of Exam	2 hours	
	Weighting	66.6% of total AS level mark	
	Nature of Exam	Written examination	
	<b>UNIT 2</b>		
	Description of Subject Content	Mechanics  Quantities and units in mechanics, Kinematics, Forces and Newton's laws	Statistics  Statistical sampling, Data presentation and interpretation, Probability, Statistical distributions, Statistical hypothesis TESTING
	Length of Exam	1 hour	
	Weighting	33.3% of total AS level mark	
	Nature of Exam	Written examination	
<b>UNIT 3</b>			
Description of Subject Content	Pure Mathematics 1 Proof, Algebra and Functions, Coordinate Geometry, Sequences and Series, Trigonometry, Exponentials and Logarithms, Differentiation, Integration, Vectors.		
Length of Exam	1 hour 30 minutes		
Weighting	25% of total A level mark		
Nature of Exam	Written paper		

	<b>UNIT 4</b>	
	Description of Subject Content	Pure Mathematics 2 Proof, Algebra and Functions, Coordinate Geometry, Sequences and Series, Trigonometry, Differentiation, Integration, Numerical Methods.
	Length of Exam	2 hours
	Weighting	33.3 % of total A level mark
	Nature of Exam	Written paper
	<b>UNIT 5</b>	
	Description of Subject Content	Mechanics and Statistics  Quantities and units in mechanics, Kinematics, Forces and Newton's laws, Moments  Statistical sampling, Data presentation and interpretation, Probability, Statistical distributions, Statistical hypothesis testing
	Length of Exam	2 hours
Weighting	33.3 % of total A level mark	
Nature of Exam	Written paper	

### AS LEVEL QUALIFICATION

Year 2019/20 Advanced Subsidiary Award Examination Board: Edexcel	<b>UNIT 1</b>	
	Description of Subject Content	Pure Mathematics 1 Proof, Algebra and Functions, Coordinate Geometry, Sequences and Series, Trigonometry, Exponentials and Logarithms, Differentiation, Integration, Vectors, Numerical Methods.
	Length of Exam	2 hours
	Weighting	66.6% of total AS level mark
	Nature of Exam	Written examination
	<b>UNIT 2</b>	
	Description of Subject Content	Mechanics and Statistics  Quantities and units in mechanics, Kinematics, Forces and Newton's laws  Statistical sampling, Data presentation and interpretation, Probability, Statistical distributions, Statistical hypothesis testing
	Length of Exam	1 hour
	Weighting	33.3% of total AS level mark
	Nature of Exam	Written examination

## STUDENT VIEW

## Mathematics



Maths A level gives you the opportunity to study Maths at a deeper level both expanding knowledge from GCSE and learning things which are completely new. This gives a wider understanding of maths and I've enjoyed having the opportunity to study statistics and mechanics as well as core maths. The courses are finished ahead of exams which enables you to spend time simply consolidating your knowledge so you will never go into the exams feeling unprepared. The course encourages you to develop your problem solving skills and logical thinking which are great skills to have and fun to use. I've loved studying maths for A level and feel it has been time well spent.

RG