COURSE DESCRIPTOR

AS/A LEVEL MATHEMATICS

SUBJECT OVERVIEW

The course covers topics including Algebra, geometry, binomial expansion, trigonometry, vectors, differentiation and integration, exponentials and logarithms.

Students take:

Pure Mathematics 1 and Statistics / Mechanics 1

Pure Mathematics 2 and Statistics / Mechanics 2

PRIOR LEARNING REQUIRED

Students should have a sound knowledge of IGCSE or equivalent in Mathematics, having gained a grade 7 or above. However, for students who do not have the IGCSE in Maths, it is expected that they sit an entrance test at the start of the year to gain entry onto the Maths AS/A Level course.

EXAM BOARD

Edexcel

HIGHER EDUCATION PATHWAYS

All universities would recommend taking the subject for a Mathematics degree. It is also listed as a desirable subject for many courses such as Physics, Engineering, Statistics, Economics, Finance and Actuarial Science.

COMPLEMENTARY SUBJECTS OF STUDY

Physics, Chemistry, Engineering, Statistics, Economics, Business and Finance.

COURSE CONTENT

Year 1	Year 2
Algebraic expressions	Algebraic methods
Quadratics	Functions and graphs
Equations and inequalities	Sequences and series
Graphs and transformations	Binomial expansion
Straight line graphs	Radians
Circles	Trigonometric functions
Algebraic methods	Trigonometry and modelling
Binomial expansion	Parametric equations
Trigonometric ratios	Differentiation
Trigonometric identities and equations	Numerical methods
Vectors	Integration
Differentiation	Vectors
Integration	
Exponentials and logarithms	Regression, correlation and hypothesis testing
	Conditional probability
Data collection	The normal distribution
Measures of location and spread	
Representations of data	
Correlation	Moments
Probability	Forces and Friction
Statistical distributions	Projectiles
Hypothesis testing	Applications of forces
	Further kinematics
Modelling in mechanics	
Constant acceleration	
Forces and motion	
Variable acceleration	

ASSESSMENTS

Formal internal assessments take place regularly about once every half term and homework is set on a regular basis.
Grades are determined by final examinations.

Assessment	Length of paper	Weighting
A level Pure Mathematics 1	2 Hours 100 marks	33.3%
A level Pure Mathematics 2	2 Hours 100 marks	33.3%

THE WORTHGATE SCHOOL
CANTERBURY

A level Statistics and Mechanics	2 Hours 100 marks	33.3%

TEXTBOOKS/REVISION GUIDES

Title	ISBN	Author
Pure Mathematics Book 1-AS Pure Mathematics Book 2 -A2	978 1 292 18027 4 978 1 292 18340 4	Pearson Pearson
Statistics and Mechanics 1 Statistics and Mechanics 2	978 1 292 23253 9 978 1 446 94407 3	Pearson Pearson

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HIGHER EDUCATION PATHWAYS

Mathematics opens a large range of career options as, together with other sciences, it is important for technology, research, conservation, resource management, social work, the medical profession, and many fields in finance as well as many other occupations.

COMPLEMENTARY SUBJECTS OF STUDY

Business, Economics, Physics, Psychology.

CURRICULUM DIRECTOR

Mr Scott Graham