THE WORTHGATE SCHOOL
CANTERBURY

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 in order to gain entry onto the Further Maths AS/A Level course.

EXAM BOARD

Edexcel

HIGHER EDUCATION PATHWAYS

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

ASSESSMENTS

Written examinations.

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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