

Mathematics

Students embarking on 'AS' and 'A2' in mathematics are expected to have studied Higher Tier GCSE.
A minimum of Grade B is expected.

Contact: Mrs T. Edwards

Course Content and Structure

Advanced Subsidiary (AS)		Advanced Level (A2)
Core 1 Surds, quadratic equations Equation of a straight line Remainder theorem, binomial expansion Differentiation		Core 3 Further trig. functions, identities Functions, including exponential functions Calculus with trig. functions Iteration Simpson's Rule
Core 2 Arithmetic and geometric series Logarithms Coordinate geometry of the circle Trigonometric functions Integration, area under curve		Core 4 Binomial series Partial fractions Trig. Formulae and equations Cartesian, parametric equations Differential equations Volumes of revolutions Vectors in 2D and 3D Further integration
Statistics 1 Probability Bayes Theorem Mean, variance and standard deviation Binomial distribution Poisson distribution Continuous probability distributions		Statistics 2 Uniform distribution Normal distribution Expected values of n random variables Central Limit Theorem Hypothesis testing Confidence limits
AS = 3 units (studied in Year 12) plus A2 = 3 units (studied in Year 13) equals full A-level		

Assessment:

Each Unit: 1½ hour exam.

There is no coursework.

Examinations taken in January and June

Subject skills

Apply mathematical methods

Apply mathematical knowledge

Connect different areas of mathematics

Set up mathematical models

Organise information

Calculate accurately

Express mathematically

Use calculators, computers

Set work logically

Make deductions

Methods of proof

Interpret results

Generalise

Estimate



Progression at 18+:

Fully acceptable qualification to University and Higher Education

Wide range of career prospects including:

Accountancy, Banking, Insurance, Teaching, Public Service, Astronomy, Surveying, Industry, Administration, Management, Commerce, Engineering, Research, Design, Development