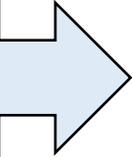




Year 13 Curriculum Overview: Mathematics (Edexcel)



**Autumn
Term**



Topics / Content Outline

- 1) Sequences and Series
- 2) Algebraic Methods
- 3) Functions
- 4) Further Trigonometry
- 5) Further Differentiation
- 6) Parametric Equations
- 7) Statistics – Probability
- 8) Mechanics – Forces
- 9) Mechanics - Moments

Powerful Knowledge (key concepts, skills)

- Series notation and iterative process
- Arithmetic Series, Geometric Series
- Proof by Contradiction
- Partial Fractions
- Range, domain and transformations of functions
- Modulus Function
- Reciprocal trig functions and identities
- Small angle approximations
- Chain Rule, Product Rule, Quotient Rule
- Implicit and parametric equations
- Compound angle and double angle formulae
- Conditional probability
- Moments

What will you be assessed on?

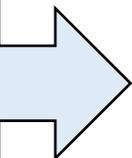
Assessment at the start of the year to build on AS content and highlight areas of AS which still require development.

Formal assessment in half term 2 made up of skills check and problem-solving questions including topics from year 12.

How can you help at home?

Encourage students to become independent learners. We will provide a skills breakdown following their AS year. It is essential that any topics found challenging from AS are addressed as soon as possible. Students are required to select their own weak areas and dedicate independent learning time to improve these skills. Working through textbook exercises, integral and AS past papers should form part of their independent study.

**Spring
Term**



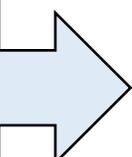
- 8) Further Integration
- 9) Differential Equations
- 10) Vectors
- 11) Binomial Expansion
- 12) Numerical Methods
- 13) Statistics – Normal Distributions
- 14) Mechanics – Projectiles
- 15) Mechanics – Further Kinematics

- Standard integrals, Integration by substitution, integration by parts
- The Trapezium Rule
- Differential Equations
- General Binomial Expansion
- Iteration
- Newton-Raphson Method
- Normal Distribution, approximating a Binomial Distribution, Hypothesis testing
- Projectiles

Mocks will be set up to replicate the final exams with all content taught through AS and up to January of year 13 on the papers. Students will sit two papers: Paper 1 will assess pure and statistics and paper 2 will assess pure and mechanics.

Encourage independent study. Students find the application of skills learnt to problem solving the most challenging part of the course. Working through a range of questions, without using a mark scheme as a prompt, is beneficial. When stuck, encourage students to come to maths support where we can talk through the thought process required.

**Summer
Term**



- 16) Recap and Revision

External are sat in May and June. We have three papers.
 Paper 1: Pure Mathematics
 Paper 2: Pure Mathematics
 Paper : Statistics and Mechanics

Any topic from year 12 and 13 can be assessed with the pure content coming up in any of the first two papers.

Encourage independent study. Students should be working through past exam papers and using the mark schemes after they have completed questions seeking help from maths support to help develop understanding and problem-solving skills. Where students are finding a topic challenging, we would recommend returning to the exercise in the textbook before returning to exam papers.