

Our KS5 Maths Curriculum Outline

Over the two years of studying the A-Level syllabus students will investigate, discover, further develop their understanding of Mathematics that they have from their studying of the Mathematics GCSE.

Students will explore key areas of mathematics such as:

<p>Pure Mathematics;</p> <ul style="list-style-type: none">• Proof• Algebra and Functions• Coordinate Geometry• Sequences and Series• Trigonometry• Exponentials and Logarithms• Differentiation• Integration• Numerical Methods• Vectors	<p>Statistics;</p> <ul style="list-style-type: none">• Statistical Sampling• Data Presentation and Interpretation• Probability• Statistical Distributions• Statistical Hypothesis Testing	<p>Mechanics;</p> <ul style="list-style-type: none">• Quantities and Units in Mechanics• Kinematics• Forces and Newton's Laws• Moments
--	---	---

These topics of Mathematics are covered throughout the two years of the A-Level course, and they build on them from the knowledge and understanding of the areas that the students have studied within their Mathematics education.

The following link is the Edexcel A-Level Specification;

<https://qualifications.pearson.com/content/dam/pdf/A%20Level/Mathematics/2017/specification-on-and-sample-assesment/a-level-l3-mathematics-specification-issue4.pdf>

We aim to cover each area of mathematics in the following structure;

Year 12		Year 13	
Term 1	Algebraic Expressions; Quadratics; Equations and Inequalities; Graphs and Transformations; Straight Line Graphs; Circles; Algebraic Methods; The Binomial Expansion; Trigonometric Ratios; Trigonometric Identities and Equations	Term 1	Functions and Graphs; Binomial Expansion; Radians; Trigonometric Functions; Trigonometry and Modelling; Parametric Equations
Term 2	Vectors; Differentiation; Integration; Exponentials and Logarithms; Data Collection; Measures of Location and Spread; Representations of Data; Correlation; Probability; Statistical Distributions; Hypothesis Testing	Term 2	Differentiation; Numerical Methods; Integration; Regression, Correlation and Hypothesis Testing; Conditional Probability; The Normal Distribution
Term 3	Modelling in Mechanics; Constant Acceleration; Forces and Motion; Variable Acceleration; Algebraic Methods; Sequences and Series	Term 3	Moments; Forces and Friction; Projectiles; Applications of Forces; Further Kinematics

At Budmouth we deliver the Pearson Edexcel Level 3 Advanced GCE in Mathematics, which follows the following format for examination.

<p>Paper 1: Pure Mathematics 1 (*Paper code: 9MA0/01)</p> <p>Paper 2: Pure Mathematics 2 (*Paper code: 9MA0/02)</p>
<p>Each paper is:</p> <p>2-hour written examination</p> <p>33.33% of the qualification</p> <p>100 marks</p>
<p>Content overview</p> <ul style="list-style-type: none"> • Topic 1 – Proof • Topic 2 – Algebra and functions • Topic 3 – Coordinate geometry in the (x, y) plane • Topic 4 – Sequences and series • Topic 5 – Trigonometry • Topic 6 – Exponentials and logarithms • Topic 7 – Differentiation • Topic 8 – Integration • Topic 9 – Numerical methods • Topic 10 – Vectors
<p>Assessment overview</p> <ul style="list-style-type: none"> • Paper 1 and Paper 2 may contain questions on any topics from the Pure Mathematics content. • Students must answer all questions. • Calculators can be used in the assessment.

<p>Paper 3: Statistics and Mechanics (*Paper code: 9MA0/03)</p>
<p>2-hour written examination</p> <p>33.33% of the qualification</p> <p>100 marks</p>
<p>Content overview</p> <p>Section A: Statistics</p> <ul style="list-style-type: none"> • Topic 1 – Statistical sampling • Topic 2 – Data presentation and interpretation • Topic 3 – Probability • Topic 4 – Statistical distributions • Topic 5 – Statistical hypothesis testing <p>Section B: Mechanics</p> <ul style="list-style-type: none"> • Topic 6 – Quantities and units in mechanics • Topic 7 – Kinematics • Topic 8 – Forces and Newton’s laws • Topic 9 – Moments
<p>Assessment overview</p> <ul style="list-style-type: none"> • Paper 3 will contain questions on topics from the Statistics content in Section A and Mechanics content in Section B. • Students must answer all questions. • Calculators can be used in the assessment.