



Curriculum Plans – Sixth Form Pure Mathematics 2&3

Please find below a detailed outline of the curriculum covered in Pure Mathematics 2&3 through Year 13 in Sixth Form Mathematics.

Year 13

Block 1	Block 2	Block 3	Block 4	Block 5	Block 6
<p>Algebra</p> <p>Students will learn how to use the modulus functions and manipulate it. They will learn how to divide polynomials, identify quotients and remainders and how to use the factor and remainder theorem.</p> <p>Logarithmic and exponential functions</p> <p>Students will learn the relationship between logarithms and indices, the definition and properties of e^x and $\ln x$ and how they can be used to solve equations and plot linear equations which have the function e^x and $\ln x$.</p>	<p>Trigonometry</p> <p>Trigonometry extends the students' knowledge of trigonometry in terms of new ratios and new identities. We will look at expansions of formulae, double angle formula and new expressions for trig.</p> <p>Differentiation</p> <p>Differentiation delves into product and quotient rules, differentiating e, \ln and trig. We will also examine parametric and implicit functions and their differential</p>	<p>Integration</p> <p>Students will extend the idea of 'reverse differentiation' to include the integration of e, fractions and trig identities.</p> <p>Numerical solutions of equations</p> <p>Students will be able to locate approximately a root of an equation by means of graphical consideration and/or sign change.</p> <p>Further Algebra</p> <p>Students will learn how to express rational functions in partial fractions and carry out expansions of brackets with degrees less than 1.</p>	<p>Further calculus</p> <p>Students will use the derivative of inverse tan, integrate fraction, integrate using substitution and parts.</p> <p>Vectors</p> <p>Students will write standard notations for vectors in 2 and 3 dimensions, calculate magnitudes, find the vector equation of the line, discover if two lines are parallel, intersect or are skew.</p>	<p>Differential Equations</p> <p>Complex numbers</p> <p>Students will deepen their understanding of the topics of differentiation and integrations. They will be introduced to the construction and solution of differential equations and also how to use complex numbers to solve previously unsolvable quadratic equations.</p>	<p>Examination preparation</p>
End of chapter assessment	End of chapter assessment	End of chapter assessment	Mock examination	End of chapter assessment	External examination