

Further Maths	Curriculum Intent: Further Maths is offered to students as part of the options process. During Years 10 and 11 the students complete two qualifications. The first is GCSE Statistics taken in Year 10; this takes the statistical study completed as part of the KS3 curriculum and GCSE Maths curriculum, then develops and extends this knowledge and understanding. New skills and concepts are introduced and students look at applying this knowledge to real life situations. The second qualification is the Level 2 Further Mathematics award, examined at the end of Year 11. This takes the number, algebra and geometry elements of GCSE Maths to the next level and provides a good starting point for A level Maths. More complex mathematical concepts including calculus, functions and matrices are introduced.																	
	Term One			Term Two			Term Three			Term Four			Term Five			Term Six		
Knowledge	<u>Number Recall</u> <ul style="list-style-type: none"> Consolidate GCSE skills Manipulation of surds <u>Algebra Recall</u> <ul style="list-style-type: none"> Consolidate GCSE skills Expanding and factorising with more than two brackets <u>Geometry Recall</u> <ul style="list-style-type: none"> Consolidate GCSE skills Circle theorems Tangents & chords Alternate segment theorem 			<u>Functions</u> <ul style="list-style-type: none"> Function notation Domain and range <u>Matrices</u> <ul style="list-style-type: none"> Introduction to matrices The zero matrix and the identity matrix Transformations <u>Algebra</u> <ul style="list-style-type: none"> Manipulation of rational expressions The factor theorem 			<u>Sequences</u> <ul style="list-style-type: none"> Linear and quadratic sequences Limiting values <u>Pythagoras' theorem and trigonometry</u> <ul style="list-style-type: none"> The sine rule The cosine rule <u>Solving Equations</u> <ul style="list-style-type: none"> Solving quadratic equations using factorisation, the quadratic formula, by completing the square and graphically <u>Inequalities</u> <ul style="list-style-type: none"> Linear inequalities Quadratic inequalities Graphical inequalities 			<u>Simultaneous Equations</u> <ul style="list-style-type: none"> Linear and non-linear simultaneous equations Solving graphically <u>Coordinate Geometry</u> <ul style="list-style-type: none"> Parallel and perpendicular lines Applications of co-ordinate geometry <u>The equation of a circle</u> <ul style="list-style-type: none"> The equation of a circle centred on the origin or any point. <u>Indices</u> <ul style="list-style-type: none"> Rules of indices Negative indices Fractional indices Solving equations with indices 			<u>Calculus</u> <ul style="list-style-type: none"> Differentiation The gradient of a curve Stationary points The equation of a tangent and normal <u>The Ratios of angles and their graphs</u> <ul style="list-style-type: none"> Trigonometric ratios of angles between 90 and 360 degrees. The circular function graphs Trigonometrical expressions and equations <u>Proof</u> <ul style="list-style-type: none"> Algebraic proof Geometric proof 			Consolidation and preparation for GCSE examinations.		
Understanding	Completion of exam questions and problem solving activities to develop application of knowledge and skills						Completion of exam questions and problem solving activities to develop application of knowledge and skills						Completion of exam questions and problem solving activities to develop application of knowledge and skills					
Skills	Use and apply standard technique		Reason, interpret and communicate mathematically		Solve problems within mathematics and in other contexts		Use and apply standard technique		Reason, interpret and communicate mathematically		Solve problems within mathematics and in other contexts		Use and apply standard technique		Reason, interpret and communicate mathematically		Solve problems within mathematics and in other contexts	
Interleaving	Regular consolidation of all prior teaching Reviewing skills for future learning						Regular consolidation of all prior teaching Reviewing skills for future learning						Regular consolidation of all prior teaching Reviewing skills for future learning					
Assessment	Regular 'low stakes' testing in class Formal assessment at end of Term One						Regular 'low stakes' testing in class Formal assessment during Year 11 PPE						Regular 'low stakes' testing in class GCSE Exams in June					