

YEAR 12	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Content Knowledge Skills	PURE Algebra and Functions <ul style="list-style-type: none"> Algebraic expressions Quadratic functions Equations and Inequalities Graphs and transformations PURE Coordinate geometry in the (x, y) plane <ul style="list-style-type: none"> Straight line graphs Circles PURE Further algebra <ul style="list-style-type: none"> Algebraic division Factor theorem Proofs 	PURE Further algebra <ul style="list-style-type: none"> The binomial expansion PURE Trigonometry <ul style="list-style-type: none"> Trig ratios and graphs Trig identities and equations PURE Vectors <ul style="list-style-type: none"> 2D vectors magnitude and direction Geometric problems PURE Exponentials and logarithms <ul style="list-style-type: none"> Exponential functions Logarithms Non linear data 	PURE Calculus <ul style="list-style-type: none"> Differentiation Integration STATISTICS Statistical Sampling <ul style="list-style-type: none"> Data collection Measure of location and spread 	STATISTICS Data representation and interpretation <ul style="list-style-type: none"> Representations of data Correlation STATISTICS Probability <ul style="list-style-type: none"> Calculating probabilities Mutually exclusive events Independent events MECHANICS Kinematics <ul style="list-style-type: none"> Constant acceleration SUVAT Displacement time graphs Velocity time graphs Gravity MECHANICS Forces & Newton's laws <ul style="list-style-type: none"> Newton's first and second law Pulleys 	STATISTICS Probability <ul style="list-style-type: none"> Probability distribution Binomial distributions Cumulative probabilities MECHANICS Kinematics <ul style="list-style-type: none"> Variable acceleration Functions of time Calculus PURE Algebra and Functions <ul style="list-style-type: none"> Proofs Partial Fractions PURE Trigonometry <ul style="list-style-type: none"> Radians Area of sectors and segments Small angle approximation 	PURE Algebra and Functions <ul style="list-style-type: none"> Modulus function Mappings Composite functions Inverse functions PURE Trigonometry <ul style="list-style-type: none"> Trig functions Trig identities Inverse trig functions
Key						

Questions						
<p>Assessment</p> <p>AO1: Use and apply standard techniques. AO2: Reason, interpret and communicate mathematically AO3: Solve problems within mathematics and in other contexts</p>	<p>Summer Transition work Baseline Tests Topic Tests Consolidation exam questions at the end of every lesson</p>	<p>Topic Tests Consolidation exam questions at the end of every lesson</p>	<p>Topic Tests Consolidation exam questions at the end of every lesson</p>	<p>Practice Mocks Topic Tests Consolidation exam questions at the end of every lesson</p>	<p>Practice Mocks Topic Tests Consolidation exam questions at the end of every lesson</p>	<p>End of Year Mocks Topic Tests Consolidation exam questions at the end of every lesson</p>
Literacy/numeracy/SMSC/Character	<p>Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.</p>					
Enrichment opportunities and futures	<p>Thanks to the growing importance placed on technology, big data and economic efficiency by all kinds of organizations, expert number crunchers are increasingly in demand. According to the US Bureau of Labour Statistics, between 2012 and 2022, the job market for mathematicians is expected to grow by a whopping 23%, with a predicted median salary of US\$110,000 (£87,660). Those who study maths are keen problem solvers, eager to make sense of even the most advanced equations. Academic research is a common career path, but so too are careers in business, economics and banking. This wide range of opportunities comes from the universal need for graduates with strong analytical and problem solving skills – which math graduates should have by the bucket load.</p>					
YEAR 13	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	
<p>Content</p> <p>Knowledge</p> <p>Skills</p>	<p>PURE Sequences and Series</p> <ul style="list-style-type: none"> Arithmetic Geometric Sum to infinity Recurrence 	<p>PURE Calculus</p> <ul style="list-style-type: none"> Differentiation Integration <p>PURE Numerical Methods</p> <ul style="list-style-type: none"> Roots 	<p>MECHANICS Forces & Newton's laws</p> <ul style="list-style-type: none"> Resolving forces Inclined planes Friction 	<p>MECHANICS Forces & Newton's laws</p> <ul style="list-style-type: none"> Statics <p>MECHANICS Kinematics</p>	Exam Preparation	

	<p>PURE Algebra and Functions</p> <ul style="list-style-type: none"> The binomial expansion <p>PURE Trigonometry</p> <ul style="list-style-type: none"> Formula Trig Identities Trig equations Parametric equations <p>PURE Vectors</p> <ul style="list-style-type: none"> 3D Vectors magnitude and direction Geometric problems 	<ul style="list-style-type: none"> Iteration Newton Raphson Method <p>MECHANICS Moments</p> <ul style="list-style-type: none"> Equilibrium Centres Tilting 	<p>MECHANICS Kinematics</p> <ul style="list-style-type: none"> Projectiles <p>STATISTICS Regression</p> <ul style="list-style-type: none"> Correlation Hypothesis testing <p>STATISTICS Probability</p> <ul style="list-style-type: none"> Conditional probability 	<ul style="list-style-type: none"> Vectors Calculus 	
Key Questions					
<p>Assessment</p> <p>AO1: Use and apply standard techniques. AO2: Reason, interpret and communicate mathematically AO3: Solve problems within mathematics and in other contexts</p>	<p>Baseline Mock Topic Tests Consolidation exam questions at the end of every lesson</p>	<p>Topic Tests Consolidation exam questions at the end of every lesson</p>	<p>Mock exams Topic Tests Consolidation exam questions at the end of every lesson</p>	<p>Practice Mocks in Statistics and Mechanics Topic Tests Consolidation exam questions at the end of every lesson</p>	<p>External AS Exams: 2 papers in Pure and 1 paper in Statistics and Mechanics</p>
Literacy/numeracy/SMSC/Character	<p>Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world,</p>				

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