

Mathematics

Year 12

Year 12			
	Autumn	Spring	Summer
Curriculum Knowledge	<ul style="list-style-type: none"> ● Quadratics ● Equations and Inequalities ● Graphs and Transformations ● Circles ● Algebraic Methods ● Straight Line Graphs ● Differentiation ● Modelling in Mechanics ● Variable Acceleration 	<ul style="list-style-type: none"> ● The Binomial Expansion ● Trigonometric Ratios ● Trigonometric Identities and Equations ● Integration ● Exponentials and Logs ● Data Collections ● Measures of Location and Spread ● Representations of Data ● Correlation ● Probability 	<ul style="list-style-type: none"> ● Vectors ● Statistical Distributions ● Hypothesis Testing ● Radians ● Trigonometric Functions ● Algebraic and Partial Fractions ● Sequences and Series
Tier 3 Vocabulary	<p>Index, expand, simplify, factorise, rationalise, complete the square, function, quadratic, cubic, intercept, discriminant, modelling, inequality transformation, stretch, gradient, parallel, perpendicular radius, chord, tangent, secant, diameter, coordinate geometry, polynomial, factor, proof, differentiate, derivative, stationary points, second derivative, forces, motion, reaction, friction, weight, tension, magnitude, direction, displacement, velocity, acceleration, particle, pulley, inextensible, mass.</p>	<p>Pascals triangle, binomial, factorial, sine, cosine, tangent, hypotenuse, circle unit, identity, exponential, logarithm, linearise, population, sample, random, continuous, discrete, histogram, correlation, mean, standard deviation, venn diagram, mutually exclusive, independent, tree diagram,</p>	<p>Vector, scalar, direction, magnitude, position vector, bearing, distribution, binomial, normal, cumulative, algebraic fraction, partial fraction, improper, quotient, remainder, radian, arc length, sector area, perimeter, sec, cosec, cot, inverse, identity, double angle formulae, arithmetic, geometric, sigma notation, recurrence relations, infinity, series, sequence,</p>

Curriculum Opportunities	UKMT Senior Maths Challenge Monday pure tutorial Wednesday applied tutorial	Monday pure tutorial Wednesday applied tutorial	AMSP problem solving course on offer AMSP exam entrance courses on offer Monday pure tutorial Wednesday applied tutorial
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Year 13

	Autumn	Spring	Summer
Curriculum Knowledge	<ul style="list-style-type: none"> ● Functions and Graphs ● Trigonometry and Modelling ● Differentiation ● Parametric Equations ● Binomial Expansion ● Vectors ● Regression, Correlation and Hypothesis Testing ● Conditional Probability ● The Normal Distribution 	<ul style="list-style-type: none"> ● Numerical Methods ● Integration ● Moments ● Forces and Friction ● Projectiles ● Application of Forces ● Further Kinematics 	<ul style="list-style-type: none"> ● Revision
Tier 3 Vocabulary	<p>Function, domain, range, modulus, mapping, composition function, inverse function, calculus, differentiation, integrate, chain rule, product rule, quotient rule, function, rate of change, differential equation, binomial expansion, parametric, cartesian, vector equations, correlation, product-moment correlation coefficient, hypothesis testing, set notation, conditional, venn diagram, tree diagram, intersection, union, normal distribution, parameters, standard deviation,</p>	<p>Implicit, substitution, integration by parts, moments, rotation, equilibrium, tilting, magnitude, centre of mass, uniform direction, Root, iteration, approximate, Newton-Raphson, tangent, staircase, cobweb, direct proof, contradiction, exhaustion, counter-example, resolve components, incline, fraction, co-efficient, projectile, horizontal, vertical, displacement, velocity, acceleration, equilibrium, magnitude, static, tension, pull, variable acceleration,</p>	
Curriculum Opportunities	<p>UKMT Senior Maths Challenge Monday pure tutorial Wednesday applied tutorial</p>	<p>Monday pure tutorial Wednesday applied tutorial</p>	<p>Monday pure tutorial Wednesday applied tutorial</p>