YEAR 12 CURRICULUM INFORMATION - Mathematics		
	Autumn 1	Autumn 2
What will students be learning?	Pure unit 1 Algebra and functions Statistics Unit 1 Sampling Statistics Unit 2 Data presentation and interpretation	Pure unit 2 Coordinate geometry Pure unit 3 Algebraic methods Mechanics Unit 6 Modelling in mechanics Mechanics Unit 7 Constant acceleration
How will students be assessed?	Baseline test Milestone assessment at the end of each unit.	Milestone assessment at the end of each unit
Literacy – What keywords will be taught?	Expression, function, constant, variable, term, unknown, coefficient, index, linear, identity, simultaneous, elimination, substitution, factorise, completing the square, intersection, change the subject, cross-multiply, power, exponent, base, rational, irrational, reciprocal, root, standard form, surd, rationalise, exact, manipulate, sketch, plot, quadratic, maximum, minimum, turning point, transformation, translation, polynomial, discriminant, real roots, repeated roots, factor theorem, quotient, intercepts, inequality, asymptote . Population, census, sample, sampling unit, sampling frame, simple random sampling, stratified, systematic, quota, opportunity (convenience) sampling. Histogram, box plot, probability density function, cumulative distribution function, continuous random variable, scatter diagram, linear regression, explanatory (independent) variables, response (dependent) variables interpolation, extrapolation, product moment correlation coefficient (PMCC), mean, median, mode, variance, standard deviation, range, interquartile range, interpercentile range, outlier.	Equation, bisect, centre, chord, circle, circumcircle, coefficient, constant, diameter, gradient, hypotenuse, intercept, isosceles, linear, midpoint, parallel, perpendicular, proportion, Pythagoras, radius, right angle, segment, semicircle, simultaneous, tangent. Binomial, coefficient, probability, proof, assumptions, deduction, exhaustion, disproof, counter-example, polynomials, factorisation, quadratic, cubic, quartic, conjecture, prediction, rational number, implies, necessary, sufficient, converse, fully factorise, factor, expand, therefore, conclusion. Modelling, smooth, rough, light, inelastic, inextensible, particle, rigid body, mass, weight, rod, plane, lamina, length, distance (m), displacement (m), velocity (m s^{-1}), speed (m s^{-1}), acceleration (m s^{-2}), force (N), retardation (m s^{-2}), newtons (N), scalar, vector, direction, magnitude, (normal) reaction, friction, tension, thrust, compression, deceleration (m s^{-2}), scalar, vector, 2D, linear, area, trapezium, gradient, equations of motion, gravity, constant, vertical.
What employability skills are being developed?	The specific value of maths as a required or preferred subject for particular careers e.g. • Engineers and engineering technicians • Surveyors and surveying technicians • Systems analysts • Actuaries • Accountants	The specific value of maths as a required or preferred subject for particular careers e.g. • Engineers and engineering technicians • Surveyors and surveying technicians • Systems analysts • Actuaries • Accountants

	• Operational researchers • Chemists • Software engineers • Statisticians	• Operational researchers • Chemists • Software engineers • Statisticians
Wider Curriculum Links?	**Physics** Trigonometry (sine waves) SUVAT Logarithms Exponentials Simultaneous equations **Chemistry** Graphs Quadratics Logarithms Rearranging formulae **Biology** Graphs Surface area and volume Logarithms **Business** Percentages Graphs **Psychology** Scatter graphs Venn diagrams Box plots	**Physics** Trigonometry (sine waves) SUVAT Logarithms Exponentials Simultaneous equations **Chemistry** Graphs Quadratics Logarithms Rearranging formulae **Biology** Graphs Surface area and volume Logarithms **Business** Percentages Graphs **Psychology** Scatter graphs Venn diagrams Box plots

What useful websites are there for this topic?	www.mathsgenie.co.uk www.drfrost.co.uk www.resourceaholic.co.uk www.crashmaths.co.uk www.physicsandmathstutor.co.uk	www.mathsgenie.co.uk www.drfrost.co.uk www.resourceaholic.co.uk www.crashmaths.co.uk www.physicsandmathstutor.co.uk
What wider reading could be done for this topic?	**Bridging GCSE & A Level Maths by Mark Rowland** Published by Collins ISBN: 978 0 00741 023 1 **AS-Level Maths Head Start** Published by CGP Workbooks ISBN: 978 1 84146	**Bridging GCSE & A Level Maths by Mark Rowland** Published by Collins ISBN: 978 0 00741 023 1 **AS-Level Maths Head Start** Published by CGP Workbooks ISBN: 978 1 84146
What else can students be doing independently to develop their understanding of this topic?	Complete topic booklets from physicsandmathstutor.co.uk Complete exam packs to develop examination skills. Complete old specification past papers for extra practise.	Complete topic booklets from physicsandmathstutor.co.uk Complete exam packs to develop examination skills. Complete old specification past papers for extra practise.