Curriculum Plan Mathematics

Year 11	Knowledge *(Topics covered, NC links)*	Subject Skills	Literacy and Numeracy	School values *(Attitude / Achievement / Community / Endeavour)*	Extra curricular opportunities	Personal development *(Character, SMSC, Fundamental British values, Careers guidance, healthy living, Citizenship, equality and diversity, financial capability, preparation for next stage)*
Cycle 1	Algebraic proof	Can write algebraic proofs of divisibility etc.	Construction of arguments			Most topics in this cycle contain higher level algebra – applications in engineering and science based careers.
	Vectors	Can construct geometric proof using vectors	Mathematical proof			
	Geometric proof	Can construct proofs using congruence and other properties	Mathematical proof			
	Circles and tangents	Algebraic representation of tangents, radii and circles.				
	Simultaneous equations	Solving linear and quadratic simultaneous equations.				
	Application of algebraic fractions	Solving equations containing fractions	Link non-algebraic fractions			

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	Probability and combinations	More complex probability	Fractions, decimals, percentages			
	Recurring decimals and fractions	Algebraic conversion between recurring decimals and fractional form.				

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Cycle 2	Polynomials	Expanding the product of more than two binomials				Statistics (Cumulative frequency, Scattergraphs and Histograms) – All careers that involve management level analysis and decision making.
	Loci and compass constructions	Standard constructions Solving problems involving loci.				Architecture and Construction.
	Iteration	Numeric solution of equations by iteration	Interpret and describe			Used in mechanical, civil, water and other areas of engineering, as well as the physical sciences to simulate and model situations and structures.

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	Transformation of graphs	Translation and reflection of functions.	Standard graph shapes			