

Curriculum Overview Template

	Focus	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 13 A level Maths: Stats	Topic	Further differentiation and numerical methods	Further integration and proof	Further probability and statistical distributions	Statistical hypothesis testing	Exam preparation	
	Key concepts/ideas	To develop further techniques to differentiate more complex material. Develop methods to find roots of equations.	To develop further techniques to integrate more complex material. Develop proof methods further	Extending probability skills further, to include conditional probability, and working with the normal distribution	Extending hypothesis testing from year 12 to include testing correlation and using the normal distribution	Revising and practicing exam style questions	
	Key skills	<p>Further differentiation- complete any methods from Summer 2 medium term plan, and consolidate</p> <p>Numerical methods:</p> <ol style="list-style-type: none"> 1) Exact solutions and approximate values 2) Iterative methods and recurrence relations 3) Cobweb and staircase diagrams 4) Newton-Raphson method of root finding 5) Trapezium rule 	<p>Further integration:</p> <ol style="list-style-type: none"> 1) Standard integrals 2) Area between two functions 3) Integration by substitution 4) Integration by parts <p>Further proof:</p> <ol style="list-style-type: none"> 1) Proof by contradiction 2) Prove that the number of prime numbers is infinite 3) Proof that the square root of 2 is irrational 	<p>Further probability:</p> <ol style="list-style-type: none"> 1) Conditional probability 2) Modelling with probability <p>Statistical distributions:</p> <p>Normal distribution-</p> <ol style="list-style-type: none"> 1) Features and identifying the normal distribution 2) Standard normal distribution 3) Inverse normal distribution 4) Using the normal distribution as an approximation to the binomial 	<p>Testing correlation</p> <p>Testing a normal distribution</p>	Practise a variety of exam style questions	
	Key terms/vocab	Roots, Numerical method, Continuous, Interval, Open interval, Iterative formula, Converge, Staircase/cobweb diagram, Newton-Raphson, Iteration,	Derivative, Definite integral, Exponential, Contradiction, Irrational, Exhaustion, Direct, Counter example	Conditional, Universal set, Intersection, Union, Complement, Subset, Empty set, Independent event, Mean, Variance, Discrete Random Variable, Continuous Random variable, Probability density function, Continuity correction	PMCC, Population Correlation Coefficient, Null hypothesis, Alternative hypothesis, Critical value, P-value, Significance level, Test Statistic,		
	Independent learning / wider reading	<p>Newton-Raphson method: https://www.youtube.com/watch?v=PIPiv6gn_Ls</p> <p>Trapezium rule: https://www.youtube.com/watch?v=YAGSOH5Kw1A</p> <p>Cobweb and Staircase diagrams: https://www.youtube.com/watch?v=gfKu1lE_Vdg</p> <p>For more videos and lots of practice questions: www.alevelmathsrevision.com www.revisionmaths.com www.mymaths.co.uk</p>	<p>Integration by substitution: https://www.youtube.com/watch?v=SgHewYUeAMY</p> <p>Integration by parts: https://www.youtube.com/watch?v=Aiwfz5BOXp0</p> <p>Proof by contradiction: https://www.youtube.com/watch?v=Vp7RHVnqtCY</p> <p>For more videos and lots of practice questions: www.alevelmathsrevision.com www.revisionmaths.com www.mymaths.co.uk</p>	<p>Normal distribution: https://www.youtube.com/watch?v=x1tSnYQLv9I</p> <p>Normal approximation to the binomial: https://www.youtube.com/watch?v=GREDEOsAO2A</p> <p>For more videos and lots of practice questions: www.alevelmathsrevision.com www.revisionmaths.com www.mymaths.co.uk</p>	<p>Testing correlation: https://www.youtube.com/watch?v=u9ql49EG2UY</p> <p>Testing the normal distribution: https://www.youtube.com/watch?v=ARnE7ND88K0</p> <p>For more videos and lots of practice questions: www.alevelmathsrevision.com www.revisionmaths.com www.mymaths.co.uk</p>	<p>For more videos and lots of practice questions: www.alevelmathsrevision.com www.revisionmaths.com www.mymaths.co.uk</p> <p>Old exam papers are also useful for revision</p>	

	Assessment	Test on year 1 pure material	Autumn Test on year 2 topics covered so far (note that these will have been started in year 12)	Mock examinations on all topics completed so far in both year 12 and 13	Spring test on topics not assessed on mocks (taught post mocks)	External exams	
	Careers links	Engineering, Economics, Finance, Forecasting, Biology, Chemistry, Physics, Geographer, business analyst	Engineering, Economics, Finance, Forecasting, Biology, Chemistry, Physics, Geographer, Business analyst	Economics, Finance, Geographer, Forecasting, any sort of business analysis, Biology, Chemistry, Physics	Economics, Finance, Geographer, Forecasting, any sort of business analysis, Biology, Chemistry, Physics	Economics, Finance, Geographer, Forecasting, any sort of business analysis, Biology, Chemistry, Physics	

	Focus	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 13 A level Maths: Maths	Topic						
	Key concepts/ideas						
	Key skills						
	Key terms/vocab						
	Independent learning / wider reading						
	Assessment						
	Careers links						