

Year 13 Further Mathematics

Year Calendar Plan		
Dates	Lesson Focus	Assessment/Revision
Term 1	<p><u>Core Pure Unit 2: Hyperbolic Functions (continued)</u></p> <ul style="list-style-type: none"> Logarithmic forms of the inverse hyperbolic functions and integrate functions of the form $1/\sqrt{x^2 \pm a^2}$; <p><u>Core Pure Unit 4: Further Algebra and Functions (Series)</u></p> <ul style="list-style-type: none"> Method of differences; Maclaurin series; <p><u>Core Pure Unit 3: Polar Coordinates</u></p> <ul style="list-style-type: none"> Convert between Cartesian and polar and sketch $r(\theta)$; <p>Area enclosed by a polar curve</p> <p><u>Core Pure Unit 5a – c: Further Calculus</u></p> <ul style="list-style-type: none"> Mean value of a function; Integrate using partial fractions; Differentiate inverse trigonometric functions and integrate using trigonometric substitutions; 	Assignments 1-4 PC1
Term 2	<p><u>Core Pure Unit 5d – e: Further Calculus</u></p> <ul style="list-style-type: none"> Volumes of revolution; <p><u>Core Pure Unit 6: Differential Equations</u></p> <ul style="list-style-type: none"> Second order differential equations of the form $y'' + ay' + by = f(x)$; Modelling; Simple Harmonic Motion Coupled Differential Equations 	Assignments 5-8 PC2
Term 3	<p><u>Further Statistics 1 Unit 7: The Central Limit Theorem</u></p> <ul style="list-style-type: none"> The Central Limit Theorem Applications to other distributions Definitions, derivations, applications and use to find the mean and variance <p><u>Further Statistics 1 Unit 9: Probability Generating Functions</u></p> <ul style="list-style-type: none"> Use of Probability Generating Functions for negative binomial, geometric, binomial and Poisson distribution Probability generating function of the sum of independent random variables Type I and Type II errors 	Assignments 9-12 PC3
Term 4	<u>Revision</u>	Assignments 13-16 PC4 Past Papers
Term 5	<u>Revision</u>	Assignments 17-20 PC5 Past Papers
Term 6		

