(A-Level Mathematics) Year 13 Long Term Plan

Rationale (with end points): In year 12 students gain a deeper understanding of key concepts in Algebra, statistics and Geometry as well as new concepts in the pure and applied side. Students use skills learnt to apply them to modelling type questions.

Term	Topic	Knowledge	Skills	*Reading /wider reading*
Autumn term 1	Pure Mechanics Statistics	• Algebraic Methods • Functions and graphs • Sequences and series • Binomial expansion • Moments • Regression & correlation • Conditional probability	Edexcel Specification - detailed skills for each topic and knowledge	The Mathematical Experience (Philip J. Davis & Reuben Hersh) Logicomix: An Epic Search for Truth (Apostolos Doxiadis & Christos H. Papadimitriou) Euler : The Master of Us All (William Dunham) Fermat's Last Theorem: The story of a riddle that confounded the world's greatest minds for 358 years (Simon Singh)
Autumn 2	Pure Mechanics Statistics	• Radians • Trigonometric functions • Trigonometry and modelling • Parametric equations • Forces and friction • Projectiles • Conditional probability • The normal distribution		
Spring 1	Pure	• Differentiation		

	Mechanics Statistics	• Numerical methods • Integration • Applications of forces • Further kinematics • The normal distribution		
Spring 2	Pure Statistics Mechanics	• Integration • Vectors • Further kinematics • The normal distribution		
Summer 1 & 2	Revision Year 13 A-Level Public Examinations			