Year 12 Maths A Level

Subject and Year Group	Autumn 1 Year 12	Autumn 2 Year 12	Spring 1 Year 12	Spring 2 Year 12	Summer 1 Year 12	Summer 2 Year 12
Topic/Unit to be studied	• Algebraic Expressions • Quadratics • Equations and • Straight Line • Trigonometric Identities and Equations • Graphs and transformations • Algebraic Methods	• Differentiation • Integration • Graphs and transformations • Algebraic Methods • Vectors • Modelling	• Circles • Constant Acceleration • Forces and Motion	• Data Collection • Measures Of Location and Spread • Representations of Data • Variable acceleration	• Correlation • Probability • Exponentials and Logarithms • Binomial expansion	• Statistical Distributions • Hypothesis testing • Review of key topics and end of year mock. • Proof
Core Knowledge and skills	• Index Laws • Surd Rules • Solving Quadratics • The discriminant • y=mx+c and ax+by+c=0 • Parallel and perpendicular lines • Sine and cosine rule, area of a triangle • Trigonometric graphs • Using trigonometric identities to solve equations	• Differentiation from first principals • Gradients and tangents • Second differential • Stationary points. • Indefinite integrals • Definite integrals • Area under a curve • Transformations of graphs • Dividing polynomials • Factor theorem • Use of proof • Magnitude and directions • Position vectors • Solving geometric problems • Modelling & assumptions • Working with vectors	• Mid points • Perpendicular bisectors • Equation of a circle • Use of discriminant • Tangents and chords • Displacement-time, velocity-time graphs • SUVAT • Vertical motion under gravity • Force diagrams • Force and acceleration • Motion in 2 dimensions • Connected particles • pulleys	• Population and Samples • Sampling methods • Large Data set • Measures of central tendency, location and spread • Variance & Standard Deviation • Box plots, Cumulative frequency and Histograms • Functions of time • Applied differentiation and integration • Constant acceleration formulae	• Correlation • Linear regression • Calculating probabilities • Venn Diagrams • Mutually exclusive and independent events • Tree Diagrams • $y=e^x$ • Laws of logarithms • Solving equations using logarithms • Pascal's triangle • Factorial notation	• Probability Distributions • The Binomial distribution • Cumulative distributions • How to complete a hypothesis test • Finding critical values • One tailed test • Two tailed test • Recap of proof methods • Proof by contradiction

					• Binomial expansion to solve problems	
Assessment for and of learning	Baseline test Unit assessments Mock exam	Unit assessments	Unit assessments Mock exam	Unit assessments	Unit assessments	Unit assessments End of Year exam