

Year group: Year 12

Subject: Mathematics

This document maps the Year 12 Curriculum in Mathematics.

	Phase One September – January (19 weeks)	Phase Two February – May (15 weeks)	Phase Three June- July (6 weeks)
Content	INTENT: Students consolidate their advanced GCSE skills and apply them rigorously in learning new content	INTENT: Students continue to learn new content and complete the AS Scheme of Work.	INTENT: Students complete an intensive revision programme for the Threshold exams and start the A2 Scheme of Work
Declarative Knowledge – 'Know What'	Pure Mathematics Algebraic Expressions including Indices and Surds Quadratics Solving Equations and Inequalities Graph Sketching and Transformations Differentiation Binomial Expansion (a+b)^n Vectors Trigonometric Ratios Statistics Data Collection including Sampling Techniques Measures of Location and Spread Data Representation Linear Correlation and Regression Probability Mechanics	Pure MathematicsTrigonometric Equations and IdentitiesIntegrationCoordinate Geometry including CircleGeometryAlgebraic Methods including MathematicalProofsExponentials and LogarithmsStatisticsStatistical Distributions and BinomialDistributionHypothesis Testing (Binomial probabilities)MechanicsVariable acceleration	The revision programme is bespoke to each teaching group and will be focussed on key Pure Mathematics topics with the completion of past papers/exam question papers by topic. A2 Scheme of Work Pure Mathematics (as much covered as time allows) Partial Fractions Sequences and Series Radians Binomial Expansion $(1 + x)^n$
	Constant Acceleration Forces and Motion		





Skills Procedural Knowledge – 'Know How'	Review intensively the GCSE advanced number and algebra concepts to be able to apply them confidently in new mathematical concepts. Learn to select appropriate knowledge and methodology to new algebra and geometry concepts and apply them in a range of modelling problems in different contexts. Learn to select appropriate statistical notation and interpret statistical answers in the context of a variety of problems. Learn to draw clear diagrams and use them to set up the equations required to solve problems. Recognise the limitations of the models used to answer a variety of problems in context.	Learn to select appropriate knowledge and methodology to new algebra and geometry concepts and apply them in a range of modelling problems in different contexts. Learn to select appropriate statistical notation and interpret statistical answers in the context of a variety of problems including the Edexcel large data set. Learn to select appropriate calculus skills and apply them to non-constant acceleration problems.	Review topics to consolidate mathematical understanding and how to apply this knowledge appropriately in the context of the exam. Learn to select appropriate knowledge and methodology to new algebra and geometry concepts and apply them in a range of modelling problems in different contexts.
Key Questions			
Assessment	Baseline (GCSE/summer work) Pure1 (Algebraic expressions, Quadratics, Equations and Inequalities and Graphs) Statistics and Mechanics1 (Data collection, sampling, mathematical modelling and constant acceleration) Pure2 (Binomial Expansion, Differentiation)	Statistics and Mechanics2 (Representing data, correlation, probability, and forces and motion) Pure 3 (Trigonometry and Vectors) Pure 4 (All topics covered so far (excludes factor theorem, proof and logarithms) Pure Mock trial exam Statistics and Mechanics Mock trial exam	Yr 12 Threshold Exams Students sit two AS level papers with the timing proportional to the full timing of an AS sitting as shown below: Pure Mathematics 2 hrs Statistics and Mechanics 1hr 15 mins.





Literacy/Numeracy/	Understanding and interpreting calculations	Understanding and interpreting calculations	Understanding and interpreting calculations
SMSC/Character	used in mathematical modelling problems set	used in mathematical modelling problems set	used in mathematical modelling problems set
	in real-life contexts.	in real-life contexts.	in real-life contexts.
	Understanding and applying the formulae used in solving problems. Aspiration, Resilience, Initiative, Confidence	Carrying out algebraic proofs of mathematical identities or formulae used in solving problems.	Carrying out algebraic proofs of mathematical identities or formulae used in solving problems.
		Aspiration, Resilience, Initiative, Confidence	Aspiration, Resilience, Initiative, Confidence