

SUBJECT

Year 2 – A Level Further Mathematics

Year 13

SUMMARY CURRICULUM PLAN

Subject content (What will be covered) [CEIAG opportunities]	As a result, what students should know /understood	What students should be able to do	How students will be assessed	By when (Half term 1 > 6)
Students are required to study core pure mathematics and 2 applied mathematics modules; which will be further mechanics and decision mathematics				
Pure Core Mathematics	Proof, Complex numbers, Matrices, Further algebra and functions, Further calculus, Further vectors, Polar coordinates, Hyperbolic functions, Differential equations	<ul style="list-style-type: none"> • understand mathematics and mathematical processes in a way that promotes confidence, fosters enjoyment and provides a strong foundation for progress to further study • extend their range of mathematical skills and techniques • understand coherence and progression in mathematics and how different areas of mathematics are connected • apply mathematics in other fields of study and be aware of the relevance of mathematics to the world of work and to situations in society in general • use their mathematical knowledge to make logical and reasoned decisions in solving problems both within pure mathematics and in a variety of contexts, and communicate the mathematical rationale for these decisions clearly • construct mathematical proofs • use their mathematical skills and techniques to solve challenging problems that require them to decide on the solution strategy • represent situations mathematically and understand the relationship between problems in context and mathematical models that may be applied to solve them 	Homeworks Topics Tests (1hr) Mock Exam (2 x 1hr 30 mins)	HT4
Further Mechanics 1	Momentum and impulse; Work, energy and power; Elastic strings and springs and elastic energy; Elastic collisions in one / two dimension	<ul style="list-style-type: none"> • use their mathematical knowledge to make logical and reasoned decisions in solving problems both within pure mathematics and in a variety of contexts, and communicate the mathematical rationale for these decisions clearly • construct mathematical proofs • use their mathematical skills and techniques to solve challenging problems that require them to decide on the solution strategy • represent situations mathematically and understand the relationship between problems in context and mathematical models that may be applied to solve them 	Homeworks Topics Tests (1hr) Mock Exam (1 hr 30 mins)	HT4
Decision Mathematics 1	Algorithms and graph theory; Algorithms on graphs; Critical path analysis; Linear programming	<ul style="list-style-type: none"> • draw diagrams and sketch graphs to help explore mathematical situations and interpret solutions • interpret solutions and communicate their interpretation effectively in the context of the problem • read and comprehend mathematical arguments, including justifications of methods and formulae, and communicate their understanding • use technology, such as calculators and computers, effectively and recognise when it may be inappropriate to use them 	Homeworks Topics Tests (1hr) Mock Exam (1 hr 30 mins)	HT4