



Curriculum Map

Subject: Further Mathematics

Year group: Year 13

This document maps the Year 13 Curriculum in Further Mathematics.

	Phase One <i>September – January</i> (18 weeks)	Phase Two <i>February– March</i> (8 weeks)	Phase Three <i>April-June</i> (8 weeks)
<p>Content</p> <p>Declarative Knowledge – ‘Know What’</p>	<p><i>INTENT: Students complete the Applied modules A2 content in Decision Mathematics and Further Mechanics. Students continue with the Core Pure Mathematics A2 content having been introduced to Integration from the A2 Mathematics Scheme of Work in Year 12. Phase 1 ends with Trial Exams in January.</i></p> <p>Core Pure Mathematics Complex Numbers (Exponential Form and De Moivre’s Theorem) Series (the Method of Differences and Maclaurin) Methods in Calculus Hyperbolic Functions Polar Coordinates Differential equations</p> <p>Decision Mathematics Travelling Salesperson Algorithm Simplex Algorithm</p> <p>Further Mechanics Elastic Strings and Springs Elastic Collisions (in 2-dimensions)</p>	<p><i>INTENT: Students complete the Core Pure Mathematics content and start to revise Core Pure content.</i></p> <p>Core Pure Mathematics Modelling with differential equations Volumes of Revolution</p>	<p><i>INTENT: Students complete a 4-week revision programme before the external exams/study leave begin.</i></p> <p>The four-week revision programme will cover all 3 modules with the completion of past papers/exam question papers by topic.</p>



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<p>Skills</p> <p>Procedural Knowledge – ‘Know How’</p>	<p>Learn to select appropriate knowledge and methodology to new number, algebra and geometry concepts and apply them in a range of modelling problems in different contexts in Pure Mathematics.</p> <p>Learn to select and apply appropriate algorithms on a small-scale in Decision Mathematics that in real-life are applied to much larger problems with the aid of a computer.</p> <p>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.</p>	<p>Learn to select appropriate knowledge and methodology to new number, algebra and geometry concepts and apply them in a range of modelling problems in different contexts in Pure Mathematics.</p>	<p>Review topics to consolidate mathematical understanding and how to apply this knowledge appropriately in the context of the exam.</p>
<p>Key Questions</p>			
<p>Assessment</p>	<p>Further Mathematics assessment 1 A2/ AS questions covered in year 12 and phase 1 up until November. These may be assessed homeworks.</p>	<p>A2 Further Mathematics Trial Exams Pure and Decision Paper (AS and A2 questions covered in Phase 1) (1hr 30 mins) Pure and Mechanics paper (AS and A2 questions covered in Phase 1) (1hr 30 mins)</p>	<p>A2 Further Mathematics External Exams Students sit four A2 papers: Core Pure Mathematics Paper 1 (1hr 30mins) Core Pure Mathematics Paper 2 (1hr 30 mins) Decision 1 (1 hr 30 mins) Further Mechanics 1 (1hr 30 mins)</p>
<p>Literacy/Numeracy/ SMSC/Character</p>	<p>Understanding and interpreting calculations used in mathematical modelling problems set in real-life contexts.</p> <p>In Decision Mathematics, studying algorithms developed in the 21st century to help solve real-life complex problems with the power of computers.</p> <p>Aspiration, Resilience, Initiative, Confidence</p>	<p>Understanding and interpreting calculations used in mathematical modelling problems set in real-life contexts.</p> <p>Aspiration, Resilience, Initiative, Confidence</p>	<p>Understanding and interpreting calculations used in mathematical modelling problems set in real-life contexts.</p> <p>Aspiration, Resilience, Initiative, Confidence</p>