

**Subject: Maths KS5**

<b>Year Group</b>	<b>Topics Covered</b>	<b>Overview of Assessment</b>
Year 12	<p><u>Unit 1:</u> - Core 1</p> <p>Topics taught in C1 are:</p> <ul style="list-style-type: none"><li>• Algebra &amp; Functions</li><li>• Sketching Curves</li><li>• Sequences &amp; Series</li><li>• Coordinate Geometry</li><li>• Differentiation</li><li>• Integration</li></ul> <p><u>Unit 2:</u> - Core 2</p> <p>Topics taught in C2 are:</p> <ul style="list-style-type: none"><li>• Algebra &amp; Functions</li><li>• Sequences &amp; Series</li><li>• Coordinate Geometry</li><li>• Trigonometry</li><li>• Differentiation</li><li>• Integration</li></ul> <p><u>Unit 3:</u> - Statistics 1</p> <p>Topics taught in S1 are:</p> <ul style="list-style-type: none"><li>• Representing Data</li><li>• Probability</li><li>• Discrete Random Variables</li><li>• Correlation &amp; Regression</li><li>• The Normal distribution</li></ul>	<p>All units will be assessed through frequent practice papers throughout the course. Regular homework will be set to check understanding</p> <p>The final assessment is a formal exam for each unit.</p>
Year 13	<p><u>Unit 4:</u> - Core 3</p> <p>Topics taught in C3 are:</p> <ul style="list-style-type: none"><li>• Algebra &amp; Series</li><li>• Functions</li><li>• Trigonometry</li><li>• Differentiation</li><li>• Numerical Methods</li></ul> <p><u>Unit 5:</u> - Core 4</p> <p>Topics taught in C4 are:</p> <ul style="list-style-type: none"><li>• Algebra &amp; Series</li><li>• Coordinate Geometry</li><li>• Differentiation</li><li>• Integration</li><li>• Numerical Methods</li><li>• Vectors</li></ul>	<p>All units will be assessed through frequent practice papers throughout the course. Regular homework will be set to check understanding</p> <p>The final assessment is a formal exam for each unit.</p>

	<p><u>Unit 6:</u> - Decision 1</p> <p>Topics taught in D1 are:</p> <ul style="list-style-type: none"> <li>• Algorithms</li> <li>• Graphs &amp; Networks</li> <li>• Algorithms on networks</li> <li>• Route Inspection (Chinese postman problem)</li> <li>• Critical Path Analysis</li> <li>• Linear Programming</li> <li>• Matchings</li> </ul>	
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**Subject: Further Maths KS5**

<b>Year Group</b>	<b>Topics Covered</b>	<b>Overview of Assessment</b>
Year 12	<p><u>Unit 1:</u> - Further Pure 1</p> <p>Topics taught in FP1 are:</p> <ul style="list-style-type: none"> <li>• Complex Numbers</li> <li>• Numerical Solutions of equations</li> <li>• Coordinate Systems</li> <li>• Matrix Algebra</li> <li>• Series</li> <li>• Proof by mathematical induction</li> </ul> <p><u>Unit 2:</u> - Mechanics 1</p> <p>Topics taught in M1 are:</p> <ul style="list-style-type: none"> <li>• Mathematical Model in mechanics</li> <li>• Kinematics of a particle moving on a straight line</li> <li>• Dynamics of a particle moving in a straight line</li> <li>• Statics of a particle</li> <li>• Moments</li> <li>• Vectors</li> </ul> <p><u>Unit 3:</u> - Statistics 2</p> <p>Topics taught in S2 are:</p> <ul style="list-style-type: none"> <li>• Binominal Distribution</li> <li>• Poisson Distribution</li> <li>• Continuous Random Variables</li> <li>• Continuous Uniform distribution</li> <li>• Normal Approximations</li> <li>• Populations and Samples</li> <li>• Hypothesis testing</li> </ul>	<p>All units will be assessed through frequent practice papers throughout the course. Regular homework will be set to check understanding</p> <p>The final assessment is a formal exam for each unit.</p>

Year 13	<p><u>Unit 1:</u> - Further Pure 2</p> <p>Topics taught in FP2 are:</p> <ul style="list-style-type: none"><li>• Inequalities</li><li>• Series</li><li>• Further Complex Numbers</li><li>• First Order Differential Equations</li><li>• Second Order Differential Equations</li><li>• Maclaurin &amp; Taylor Series</li><li>• Polar Coordinates</li></ul> <p><u>Unit 2:</u> - Mechanics 2</p> <p>Topics taught in M2 are:</p> <ul style="list-style-type: none"><li>• Kinematics of a Particle moving in a straight line or plane</li><li>• Centre of mass</li><li>• Work, energy &amp; power</li><li>• Collisions</li><li>• Statics of rigid bodies</li></ul> <p><u>Unit 3:</u> - Decision 2</p> <p>Topics taught in D2 are:</p> <ul style="list-style-type: none"><li>• Transportation problems</li><li>• Allocation (assignment) problems</li><li>• The Travelling Salesman Problem</li><li>• Further Linear Programming</li><li>• Game Theory</li><li>• Network Flows</li><li>• Dynamic Programming</li></ul>	<p>All units will be assessed through frequent practice papers throughout the course. Regular homework will be set to check understanding</p> <p>The final assessment is a formal exam for each unit.</p>
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