

Shoreham Academy: Maths Department "7-year journey"

Shoreham Academy maths department: 7 year curriculum map

	Autumn		Spring		Summer	
<b>Year 7</b>	<b>HT1:</b> <ul style="list-style-type: none"> <li>7.01 Place value and number sense</li> <li>7.02 Addition and Subtraction</li> <li>7.03 Perimeter</li> <li>7.04 Rounding &amp; Estimation</li> </ul> <i>Links to: KS2 Y6 PoS</i>	<b>HT2:</b> <ul style="list-style-type: none"> <li>7.05 Multiplication &amp; Division</li> <li>7.06 Factors &amp; Multiples</li> <li>7.07 Area (triangles, rectangles and parallelograms)</li> </ul> <i>Links to: KS2 Y6 PoS</i>	<b>HT3:</b> <ul style="list-style-type: none"> <li>7.08 Fractions (as a part of a whole)</li> <li>7.09 Operations with fractions</li> <li>7.10 Compare and order fractions</li> <li>7.11 Fraction of an amount</li> </ul> <i>Links to: KS2 Y6 PoS, 7.05</i>	<b>HT4:</b> <ul style="list-style-type: none"> <li>7.12 Order of operations</li> <li>7.13 Basic rules of algebra</li> <li>7.14 Expand and factorise</li> <li>7.15 Substitution</li> </ul> <i>Links to: KS2 Y6 PoS, 7.02, 7.03, 7.05, 7.09, 7.13</i>	<b>HT5:</b> <ul style="list-style-type: none"> <li>7.16 Angles</li> <li>7.17 Polygons</li> <li>7.18 Symmetry and reflection</li> <li>7.19 Coordinates</li> </ul> <i>Links to: KS2 Y6 PoS, 7.02</i>	<b>HT6:</b> <ul style="list-style-type: none"> <li>7.20 Mean</li> <li>7.21 Two-way tables</li> <li>7.21 Venn diagrams</li> <li>Revision</li> </ul> <i>Links to: KS2 Y6 PoS, 7.02, 7.05</i>
<b>Year 8</b>	<b>HT1:</b> <ul style="list-style-type: none"> <li>8.01 Indices</li> <li>8.02 Prime Factorisation</li> <li>8.03 Rounding</li> <li>8.04 Fractions</li> <li>8.05 Negative Number Review</li> </ul> <i>Links to: 7.01,7.04, 7.06, 7.08, 7.09, 7.14</i>	<b>HT2:</b> <ul style="list-style-type: none"> <li>8.06 Linear equations</li> <li>8.07 Linear equations (in context)</li> <li>8.08 Coordinates and basic graphs</li> </ul> <i>Links to: 7.03, 7.07, 7.13, 7.19, 8.06</i>	<b>HT3:</b> <ul style="list-style-type: none"> <li>8.09 Units of measurement</li> <li>8.10 Angles in parallel lines</li> <li>8.11 Interior and exterior angles</li> <li>8.12 Circumference</li> </ul> <i>Links to: 7.03, 7.05, 7.16, 7.17, 8.09</i>	<b>HT4:</b> <ul style="list-style-type: none"> <li>8.13 Proportional reasoning</li> <li>8.14 Fractions, decimals and percentages</li> <li>8.15 Ratio</li> </ul> <i>Links to: 7.05, 7.08, 7.10, 8.04, 8.13</i>	<b>HT5:</b> <ul style="list-style-type: none"> <li>8.16 Area of circles and trapezia</li> <li>8.17 Presenting and interpreting data</li> <li>8.18 Averages</li> </ul> <i>Links to: 7.07, 7.16, 7.20, 8.09</i>	<b>HT6:</b> <ul style="list-style-type: none"> <li>8.19 Properties of 3-D shapes</li> <li>8.20 Volume</li> <li>Revision</li> </ul> <i>Links to: KS2 Y6 PoS, 7.05</i>
<b>Year 9</b>	<b>HT1:</b> <ul style="list-style-type: none"> <li>9.01 Place value &amp; number properties</li> <li>9.02 Decimals</li> <li>9.03 Rounding and estimation</li> <li>9.04 Indices, powers and roots</li> <li>9.05 Factors, multiples and primes</li> <li>9.06 Basics of ratio</li> </ul> <i>Links to: 7.02, 7.05, 7.10, 7.12, 8.01, 8.02, 8.03, 8.05, 8.15</i>	<b>HT2:</b> <ul style="list-style-type: none"> <li>9.07 Fractions, decimals and percentages</li> <li>9.08 Operations with fractions</li> <li>9.09 Percentages</li> <li>9.10 Proportion</li> </ul> <i>Links to: 7.10, 7.15, 8.04, 8.06, 8.09, 8.13, 8.14, 9.01</i>	<b>HT3:</b> <ul style="list-style-type: none"> <li>9.11 Algebraic notation</li> <li>9.11 Simplifying expressions</li> <li>9.12 Index laws</li> <li>9.13 Expanding &amp; factorising expressions</li> <li>9.14 Substitution with expressions</li> </ul> <i>Links to: 7.13, 7.15, 8.01, 8.06, 9.04, 9.08</i>	<b>HT4:</b> <ul style="list-style-type: none"> <li>9.15 Linear expressions</li> <li>9.16 Linear inequalities</li> <li>9.17 Perimeter &amp; area</li> <li>9.18 Pythagoras</li> </ul> <i>Links to: 7.03, 7.07, 7.15, 7.16, 8.06, 8.09, 8.10, 8.12, 9.01, 9.14, 9.15</i>	<b>HT5:</b> <ul style="list-style-type: none"> <li>9.19 Properties of shapes</li> <li>9.20 Angle facts</li> <li>9.21 Parallel lines</li> <li>9.22 Circles</li> <li>9.23 Volume</li> </ul> <i>Links to: 7.16, 7.17, 7.18, 7.19, 8.10, 8.11, 8.12, 8.16, 8.20, 8.21</i>	<b>HT6:</b> <ul style="list-style-type: none"> <li>9.24 Surface area</li> <li>9.25 Basic vectors</li> <li>9.26 Sequences</li> <li>9.27 Plans &amp; elevations</li> </ul> <i>Links to: 7.02, 8.05, 8.20, 9.14</i>

**KS4:** There are two pathways for KS4 in maths. Students will either go down a higher tier of entry route or a foundation tier of entry route for their GCSE.

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<b>KS4 PATHWAY 1:</b>	<b>Autumn</b>		<b>Spring</b>		<b>Summer</b>	
<b>Year 10 HIGHER</b>	<b>HT1:</b> <ul style="list-style-type: none"> <li>10.01 Rearranging formulae</li> <li>10.02 Linear graphs</li> <li>10.03 <math>Y = mx + c</math></li> <li>10.04 Compound measures</li> </ul> <i>Links to: 7.13, 8.06, 9.14, 9.15</i>	<b>HT2:</b> <ul style="list-style-type: none"> <li>10.05 Quadratic graphs, TP and roots</li> <li>10.06 Further expanding &amp; factorising</li> <li>10.07 Linear simultaneous equations</li> <li>10.08 Further graphs</li> </ul> <i>Links to: 7.13, 8.06, 9.13</i>	<b>HT3:</b> <ul style="list-style-type: none"> <li>10.09 Probability</li> <li>10.10 Capture &amp; release</li> <li>10.11 Standard form</li> <li>10.12 Proportion (further)</li> </ul> <i>Links to: 7.01, 8.01, 8.05, 9.04, 9.10</i>	<b>HT4:</b> <ul style="list-style-type: none"> <li>10.13 Simple interest</li> <li>10.14 Growth &amp; decay</li> <li>10.15 Ratio (further)</li> <li>10.16 Recurring decimals</li> </ul> <i>Links to: 8.15, 9.06, 10.08</i>	<b>HT5:</b> <ul style="list-style-type: none"> <li>10.17 Statistics</li> <li>10.18 Surds</li> <li>10.19 Bounds</li> </ul> <i>Links to: 8.01, 8.05, 9.04, 9.02, 9.05</i>	<b>HT6:</b> <ul style="list-style-type: none"> <li>10.20 Right angled trigonometry</li> <li>10.21 Similar shapes</li> <li>10.22 Quadratic sequences</li> </ul> <i>Links to: 7.16, 7.17, 9.18, 9.19</i>
<b>Year 11 HIGHER</b>	<b>HT1:</b> <ul style="list-style-type: none"> <li>11.01 Algebraic proof</li> <li>11.02 Solving quadratic &amp; simultaneous equations</li> <li>11.03 Functions</li> <li>11.04 Iteration</li> <li>11.05 Quadratic inequalities</li> </ul> <i>Links to: 7.13, 8.06, 9.13, 9.14, 10.05, 10.07</i>	<b>HT2:</b> <ul style="list-style-type: none"> <li>11.06 Bearings</li> <li>11.07 Circle theorems</li> <li>11.08 Further trigonometry &amp; trigonometric graphs</li> </ul> <i>Links to: 8.12, 8.16, 9.22, 10.20</i>	<b>HT3:</b> <ul style="list-style-type: none"> <li>11.09 Statistics (further)</li> <li>11.10 Transformations</li> <li>11.11 Congruence</li> <li>11.12 Vectors</li> </ul> <i>Links to: 7.17, 7.18, 7.19, 9.14, 10.17</i>	<b>HT4:</b> <ul style="list-style-type: none"> <li>11.13 Gradients and area under a graph</li> <li>11.14 Kinematics</li> <li>11.15 Graphical transformations</li> <li>11.16 Constructions &amp; loci</li> </ul> <i>Links to: 9.22 10.02, 10.03, 10.05, 10.08, 11.03</i>	<b>HT5:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>	<b>HT6:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>

**KS5: At Shoreham Academy, we offer A level maths as well as further maths.**

<b>KS4 PATHWAY 2:</b>	<b>Autumn</b>		<b>Spring</b>		<b>Summer</b>	
<b>Year 10 FOUNDATION</b>	<b>HT1:</b> <ul style="list-style-type: none"> <li>10.01 Rearranging formulae</li> <li>10.02 Linear graphs</li> <li>10.03 <math>Y = mx + c</math></li> <li>10.04 Compound measures</li> </ul> <i>Links to: 7.13, 8.06, 9.14, 9.15</i>	<b>HT2:</b> <ul style="list-style-type: none"> <li>10.05 Quadratic graphs, TP and roots</li> <li>10.06 Linear simultaneous equations</li> <li>10.07 Further graphs</li> </ul> <i>Links to: 7.13, 8.06, 9.13</i>	<b>HT3:</b> <ul style="list-style-type: none"> <li>10.08 Probability</li> <li>10.09 Standard form</li> </ul> <i>Links to: 7.08, 8.04, 7.21, 7.16, 9.04</i>	<b>HT4:</b> <ul style="list-style-type: none"> <li>10.10 Simple interest</li> <li>10.11 Ratio (further)</li> <li>10.12 Growth &amp; decay</li> </ul> <i>Links to: 8.15, 9.06, 10.02, 10.07</i>	<b>HT5:</b> <ul style="list-style-type: none"> <li>10.13 Statistics</li> </ul> <i>Links to: 7.20, 7.21, 8.17, 8.18, 10.08</i>	<b>HT6:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>
<b>Year 11 FOUNDATION</b>	<b>HT1:</b> <ul style="list-style-type: none"> <li>11.01 Pythagoras</li> <li>11.02 Right angled trigonometry</li> <li>11.03 Bearings &amp; scale drawings</li> </ul> <i>Links to: 7.12, 8.01, 9.04, 9.19, 11.01, 9.20</i>	<b>HT2:</b> <ul style="list-style-type: none"> <li>11.04 Transformations</li> <li>11.05 Congruence</li> </ul> <i>Links to: 7.18, 7.19, 8.08, 9.19, 9.26</i>	<b>HT3:</b> <ul style="list-style-type: none"> <li>11.06 Vectors</li> <li>11.07 Similar shapes</li> <li>11.08 Constructions &amp; loci</li> </ul> <i>Links to: 7.17, 8.11, 9.19, 9.26, 11.05</i>	<b>HT4:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>	<b>HT5:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>	<b>HT6:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>

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<b>A level Maths:</b>	<b>Autumn</b>		<b>Spring</b>		<b>Summer</b>	
<b>Pure module (Year 1)</b>	<b>HT1:</b> <ul style="list-style-type: none"> <li>Algebraic expressions</li> <li>Quadratics</li> <li>Equations &amp; inequalities</li> </ul> <i>Links to: 11.01-11.05, 7.13, 8.06, 9.13, 9.14</i>	<b>HT2:</b> <ul style="list-style-type: none"> <li>Graphs &amp; transformations</li> <li>Straight line graphs</li> <li>Circles</li> <li>Algebraic methods</li> </ul> <i>Links to: 11.03, 11.07, 10.01-10.05</i>	<b>HT3:</b> <ul style="list-style-type: none"> <li>Algebraic methods (continued)</li> <li>Binomial expansion</li> <li>Trigonometric ratios</li> <li>Trigonometric identities and equations</li> </ul> <i>Links to: 11.01, 10.06, 10.20, 10.09, 8.12, 8.16, 7.16, 7.17</i>	<b>HT4:</b> <ul style="list-style-type: none"> <li>Numerical methods</li> <li>Integration</li> <li>Vectors</li> </ul> <i>Links to: 10.01-10.05, 11.01, 11.12-11.14</i>	<b>HT5:</b> <ul style="list-style-type: none"> <li>Exponentials and logarithms</li> <li>Revision programme</li> </ul> <i>Links to: 11.03, 8.01, 9.04, 10.08</i>	<b>HT6:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>
<b>Pure module (Year 2)</b>	<b>HT1:</b> <ul style="list-style-type: none"> <li>Algebraic methods</li> <li>Functions &amp; graphs</li> <li>Sequences &amp; series</li> </ul> <i>Links to: 11.03, 7.13, 9.04, 9.08, 9.13, 10.22, 10.13, 10.14</i>	<b>HT2:</b> <ul style="list-style-type: none"> <li>Binomial expansion</li> <li>Radians</li> <li>Trigonometric functions</li> </ul> <i>Links to: 11.08, 10.20, HT3 Y12</i>	<b>HT3:</b> <ul style="list-style-type: none"> <li>Trigonometry &amp; modelling</li> <li>Parametric equations</li> <li>Differentiation</li> </ul> <i>Links to: 11.08, 11.09, 10.08, 10.20, HT3 and HT4 Y12</i>	<b>HT4:</b> <ul style="list-style-type: none"> <li>Differentiation (continued)</li> <li>Numerical methods</li> <li>Integration</li> </ul> <i>Links to: 11.01-11.05, 11.12-11.14</i>	<b>HT5:</b> <ul style="list-style-type: none"> <li>Vectors</li> <li>Revision programme</li> </ul> <i>Links to: 11.12</i>	<b>HT6:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>
<b>Statistics &amp; Mechanics module (Year 1)</b>	<b>HT1:</b> <ul style="list-style-type: none"> <li>Data collection techniques</li> <li>Measures of location and spread</li> <li>Representations of data</li> </ul> <i>Links to: 11.09, 10.17</i>	<b>HT2:</b> <ul style="list-style-type: none"> <li>Correlation</li> <li>Probability</li> <li>Statistical distributions</li> <li>Hypothesis testing</li> </ul> <i>Links to: 10.09, 10.15, 11.09</i>	<b>HT3:</b> <ul style="list-style-type: none"> <li>Modelling in mechanics</li> <li>Constant acceleration</li> </ul> <i>Links to: 10.04, 10.17, 11.09</i>	<b>HT4:</b> <ul style="list-style-type: none"> <li>Forces and motion</li> <li>Revision programme</li> </ul> <i>Links to: 10.01</i>	<b>HT5:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>	<b>HT6:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>
<b>Statistics &amp; Mechanics module (Year 2)</b>	<b>HT1:</b> <ul style="list-style-type: none"> <li>Regression correlation and hypothesis testing</li> <li>Conditional probability (Venn Diagrams)</li> <li>Normal distribution</li> </ul> <i>Links to: HT1 and HT2 Y12</i>	<b>HT2:</b> <ul style="list-style-type: none"> <li>Approximating normal distribution</li> </ul> <i>Links to: HT1 and HT2 Y12</i>	<b>HT3:</b> <ul style="list-style-type: none"> <li>Moments</li> <li>Forces and frictions</li> <li>Projectiles</li> </ul> <i>Links to: HT1 and HT2 Y12</i>	<b>HT4:</b> <ul style="list-style-type: none"> <li>Applications of forces</li> <li>Further kinematics</li> </ul> <i>Links to: HT1 and HT2 Y12</i>	<b>HT5:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>	<b>HT6:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>

**A level Further Maths:**

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	Autumn		Spring		Summer	
<b>Core Pure module (Year 1)</b>	<b>HT1:</b> <ul style="list-style-type: none"> <li>Complex numbers</li> <li>Argand diagrams</li> <li>Roots of polynomials</li> </ul> <i>Links to: 10.06, 10.18, 10.05, 11.12, 11.07</i>	<b>HT2:</b> <ul style="list-style-type: none"> <li>Roots of polynomials (continued)</li> <li>Series</li> <li>Proof by induction</li> <li>Vectors</li> </ul> <i>Links to: 11.01, 11.02, 11.04, 11.12</i>	<b>HT3:</b> <ul style="list-style-type: none"> <li>Matrices</li> <li>Linear transformations</li> <li>Volumes of revolution</li> </ul> <i>Links to: 11.10, 8.16, 11.15, 11.13</i>	<b>HT4:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>	<b>HT5:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>	<b>HT6:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>
<b>Core Pure module (Year 2)</b>	<b>HT1:</b> <ul style="list-style-type: none"> <li>Complex numbers</li> <li>Series</li> </ul> <i>Links to: HT1 Y12</i>	<b>HT2:</b> <ul style="list-style-type: none"> <li>Algebra &amp; functions</li> <li>Calculus</li> <li>Matrices</li> </ul> <i>Links to: 11.03, 11.15</i>	<b>HT3:</b> <ul style="list-style-type: none"> <li>Matrices (continued)</li> <li>Proof</li> </ul> <i>Links to: HT2 and HT3 Y12</i>	<b>HT4:</b> <ul style="list-style-type: none"> <li>Vectors</li> </ul> <i>Links to: HT2 Y12</i>	<b>HT5:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>	<b>HT6:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>
<b>Further Mechanics module (Year 1)</b>	<b>HT1:</b> <ul style="list-style-type: none"> <li>Momentum and impulse</li> </ul> <i>Links to: 10.20, 11.08, 11.13</i>	<b>HT2:</b> <ul style="list-style-type: none"> <li>Work, energy and power</li> </ul> <i>Links to: HT1 Y12</i>	<b>HT3:</b> <ul style="list-style-type: none"> <li>Elastic energy</li> </ul> <i>Links to: HT1-2 Y12</i>	<b>HT4:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>	<b>HT5:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>	<b>HT6:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>
<b>Further Mechanics module (Year 2)</b>	<b>HT1:</b> <ul style="list-style-type: none"> <li>Elastic collisions 1D</li> </ul> <i>Links to: HT3 Y12</i>	<b>HT2:</b> <ul style="list-style-type: none"> <li>Elastic collisions 2D</li> </ul> <i>Links to: HT3 Y12 and HT1 Y13</i>	<b>HT3:</b> <ul style="list-style-type: none"> <li>Elastic collisions 2D (continued)</li> </ul> <i>Links to: HT3 Y12 and HT1-2 Y13</i>	<b>HT4:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>	<b>HT5:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>	<b>HT6:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>
<b>Further Decision module (Year 1)</b>	<b>HT1:</b> <ul style="list-style-type: none"> <li>Graphs &amp; networks</li> <li>Algorithms on graphs</li> </ul> <i>Links to: HT1 and HT2 Y11</i>	<b>HT2:</b> <ul style="list-style-type: none"> <li>Algorithms on graphs (continued)</li> <li>Route inspection</li> </ul> <i>Links to: HT1 Y12</i>	<b>HT3:</b> <ul style="list-style-type: none"> <li>Sorting algorithms</li> <li>Linear programming</li> </ul> <i>Links to: HT1 and HT2 Y12</i>	<b>HT4:</b> <ul style="list-style-type: none"> <li>Linear programming (continued)</li> <li>Critical path analysis</li> </ul> <i>Links to: HT3 Y12</i>	<b>HT5:</b> <ul style="list-style-type: none"> <li>Critical path analysis (continued)</li> <li>Revision programme</li> </ul> <i>Links to: HT4 Y12</i>	<b>HT6:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>
<b>Further Decision module (Year 2)</b>	<b>HT1:</b> <ul style="list-style-type: none"> <li>Travelling Salesman Problem</li> <li>Route Inspections with more than 4 odd vertices</li> </ul> <i>Links to: HT1-3 Y12</i>	<b>HT2:</b> <ul style="list-style-type: none"> <li>Planarity Algorithm</li> <li>Floyd’s Algorithm</li> </ul> <i>Links to: HT1-3 Y12</i>	<b>HT3:</b> <ul style="list-style-type: none"> <li>Critical path analysis – resource histograms/scheduling diagrams</li> <li>The Simplex Algorithm</li> </ul> <i>Links to: 11.09, HT1 Y12</i>	<b>HT4:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>	<b>HT5:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>	<b>HT6:</b> <ul style="list-style-type: none"> <li>Revision programme</li> </ul>