

## Year 11 Maths Curriculum Overview 2015-16

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
<b>Subject Content</b>	<p><b><u>Geometry:</u></b> <b><u>Volume</u></b></p> <ul style="list-style-type: none"> <li>• Volume of a pyramid</li> <li>• Cones</li> <li>• Spheres</li> </ul> <p><b><u>Pythagoras theorem</u></b></p> <ul style="list-style-type: none"> <li>• Pythagoras theorem</li> <li>• Applying Pythagoras' theorem in real-life situations</li> <li>• Pythagoras' theorem in three dimensions</li> </ul> <p><b><u>Trigonometry 1</u></b></p> <ul style="list-style-type: none"> <li>• Trigonometric ratios</li> <li>• Using the sine, cosine and tangent functions</li> <li>• Solving problems with trigonometry</li> </ul> <p><b><u>Trigonometry 2</u></b></p> <ul style="list-style-type: none"> <li>• 2D and 3D problems</li> <li>• Trigonometric ratios of angles between <math>90^\circ</math> and <math>360^\circ</math></li> <li>• Using sine rule and cosine rule</li> <li>• Trigonometric ratios in surd form</li> </ul>	<p><b><u>Algebra:</u></b> <b><u>Quadratic equations</u></b></p> <ul style="list-style-type: none"> <li>• Solving quadratic equations by: <ul style="list-style-type: none"> <li>- Factorisation</li> <li>- Quadratic Formula</li> <li>- Completing the square</li> </ul> </li> <li>• Problems involving quadratic equations</li> </ul> <p><b><u>Graphs and their equations</u></b></p> <ul style="list-style-type: none"> <li>• Drawing linear graphs</li> <li>• Finding an equation of a line</li> <li>• Quadratic graphs</li> <li>• Significant points of a quadratic graph</li> </ul> <p><b><u>Shape:</u></b> <b><u>Scale and Similarity</u></b></p> <ul style="list-style-type: none"> <li>• Similar triangles</li> <li>• Areas and volumes of similar shapes</li> </ul> <p><b><u>Statistics:</u></b> <b><u>Data Handling</u></b></p> <ul style="list-style-type: none"> <li>• Averages</li> </ul>	<p><b><u>Algebra:</u></b> <b><u>Algebraic methods</u></b></p> <ul style="list-style-type: none"> <li>• Rearranging formulae</li> <li>• Changing the subject of a formula</li> <li>• Simultaneous equations</li> <li>• Linear and non-linear simultaneous equations</li> </ul> <p><b><u>Number:</u></b> <b><u>Variation:</u></b></p> <ul style="list-style-type: none"> <li>• Direct variation</li> <li>• Inverse variation</li> </ul> <p><b><u>Limits of accuracy:</u></b></p> <ul style="list-style-type: none"> <li>• Limits of accuracy</li> <li>• Problems involving limits of accuracy</li> </ul> <p><b><u>Statistics:</u></b> <b><u>Completion of Statistics coursework</u></b></p>	<p><b><u>Geometry:</u></b> <b><u>Vectors</u></b></p> <ul style="list-style-type: none"> <li>• Properties of vectors</li> <li>• Vectors in geometry</li> <li>• Geometric proof</li> </ul> <p><b><u>Algebra:</u></b> <b><u>Transformation of graphs</u></b></p> <ul style="list-style-type: none"> <li>• Transformations of the graph <math>y = f(x)</math></li> </ul> <p><b><u>Recap Quadratic and equations</u></b></p> <p><b><u>Geometry:</u></b> <b><u>Recap on Pythagoras and Trigonometry</u></b></p>	<p><b><u>Topic Revision:</u></b></p> <ul style="list-style-type: none"> <li>• Number</li> <li>• Geometry</li> <li>• Statistics</li> <li>• Algebra</li> </ul> <p><b>Working on Past papers and revision</b></p>	<p><b>Working on Past papers and revision</b></p> <p><b>GCSE Statistics revision</b></p>

	<ul style="list-style-type: none"> <li>Using the sine rule to find area of a triangle</li> </ul> <p><b>Properties of circles</b></p> <ul style="list-style-type: none"> <li>Circle theorems</li> <li>Cyclic quadrilaterals</li> <li>Tangents and chords</li> <li>Alternate segment theorem</li> </ul> <p><b>Number:</b></p> <ul style="list-style-type: none"> <li>Powers (indices)</li> <li>Standard form</li> <li>Rational numbers and reciprocals</li> <li>Surds</li> </ul> <p><b>Algebra:</b> <b>Linear and Quadratic equations</b></p> <ul style="list-style-type: none"> <li>Basic algebra</li> <li>Factorisation</li> <li>Solving Linear Equations</li> <li>Setting up equations</li> <li>Expanding brackets</li> <li>Quadratic factorisation</li> </ul>	<ul style="list-style-type: none"> <li>Frequency tables and diagrams</li> <li>Grouped data</li> </ul> <p><b>Data Distributions</b></p> <ul style="list-style-type: none"> <li>Cumulative frequency diagrams</li> <li>Box plots</li> <li>Histograms with bars of unequal width</li> </ul> <p><b>Statistics:</b> <b>Probability of events:</b></p> <ul style="list-style-type: none"> <li>Experimental probability</li> <li>Mutually exclusive and exhaustive events</li> <li>Addition rule for events</li> <li>Combined events</li> </ul> <p><b>Calculating Probabilities:</b></p> <ul style="list-style-type: none"> <li>Tree diagrams</li> <li>Independent events</li> <li>Conditional probability</li> </ul>				
<b>Assessment</b>	<ul style="list-style-type: none"> <li>Short Topic Tests</li> <li>Mock Exam</li> </ul>	<ul style="list-style-type: none"> <li>Short Topic Tests</li> </ul>	<ul style="list-style-type: none"> <li>Short Topic Tests</li> <li>PPE exams</li> </ul>	<ul style="list-style-type: none"> <li>Short Topic Tests</li> </ul>	<ul style="list-style-type: none"> <li>Short Topic Tests</li> <li>Exam Booklets</li> </ul>	<ul style="list-style-type: none"> <li>End of Chapter tests</li> <li><b>End of Term Test</b></li> </ul>
<b>Cross Curricular Opportunities</b>	Science and Design and Technology	Science, Art and Media	Business studies	Design and Technology		
<b>Social, Moral, Spiritual, Cultural</b>	There is always a focus on group work to facilitate learning in maths. Lessons are designed to give students the opportunity to express their ideas and communicate with others.					
<b>Homework</b>	Homework will be set twice a week. This may be related to work students have covered and also work they have yet to start in class.					