

# KS4 (Maths) Programme of Study (Year 11)

Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15
Autumn 1 – ‘Equality & Diversity’								Autumn 2 – ‘Living in the Wider World’						
Angles, Bearing & Sequencing								Algebraic, Gradients, Revision & Mock						
<u>Continue sequences and find and use nth term</u> <ul style="list-style-type: none"> <li>sequence</li> <li>Find missing terms in a sequence</li> <li>Use a rule to generate a sequence</li> <li>Find the nth term of a linear sequence</li> <li>Use nth term to find terms in a sequence</li> <li>Decide if a term is in a sequence</li> <li>including Fibonacci-type sequences, quadratic sequences, and simple geometric progressions</li> </ul>	<u>Find the upper and lower bounds of numbers</u> <ul style="list-style-type: none"> <li>round numbers and measures to an appropriate degree of accuracy</li> <li>use inequality notation to specify simple error intervals due to truncation or rounding</li> </ul>	<u>To find missing angles using a mixture of rules</u> <ul style="list-style-type: none"> <li>concepts and vocabulary of expressions, equations, formulae and identities</li> <li>difference between an equation and an identity</li> <li>Substitute numerical values into formulae</li> <li>Translate simple situations or procedures into algebraic expressions or formulae</li> </ul>	<u>Conduct and describe all four transformations</u> <ul style="list-style-type: none"> <li>Revise basic angle facts (on a line, vertically opposite, round a point, in a triangle and quadrilateral)</li> <li>Find angles in parallel lines</li> <li>Interior and exterior angles of polygons</li> <li>Understand and calculate bearings</li> </ul>	<u>Use Pythagoras and right angled trigonometry</u> <ul style="list-style-type: none"> <li>Use Pythagoras’s theorem to find missing sides in right angled triangles</li> <li>Use past exam questions with shapes involving right angles and linking to area (e.g. triangles and trapeziums)</li> <li>Use SOH CAH TOA to find missing sides and angles in right angled triangles</li> </ul>	<u>Gradients and lines</u> <ul style="list-style-type: none"> <li>identify and interpret gradients and intercepts of linear functions graphically and algebraically lot graphs of equations that correspond to straight-line graphs in the coordinate plane</li> <li>use the form <math>y=mx+c</math> to identify parallel lines</li> <li>find the equation of the line through two given points, or through one point with a given gradient</li> </ul>	<u>Algebraic Manipulation</u> <ul style="list-style-type: none"> <li>collecting like terms</li> <li>multiplying a single term over a bracket</li> <li>taking out common factors</li> <li>simplifying expressions involving sums, products and powers, including the laws of indices</li> <li>expanding products of two binomials</li> <li>factorising quadratic expressions of the form <math>x^2+bx+c</math>, including the difference of two squares</li> </ul>	<u>Revision</u>	<u>Mock</u>	<u>Feed Forward</u>					
<b>Notes/Links/Interleaving</b> Topics identified from end of year 10 QLA to be used in weekly retrievals.		<b>Additional Higher Content</b> <i>Work to be differentiated in lessons to meet the needs of the student</i>						<b>Notes/Links/Interleaving</b>		<b>Additional Higher Content</b> <i>Work to be differentiated in lessons to meet the needs of the student</i>				
Spring 01 ‘The Circle of Life’								Spring 02 ‘Conflict’						
Ratio & Proportion, Quadratics & Non Calculator Methods														
<u>Solve problems involving ratio and proportion</u> <ul style="list-style-type: none"> <li>Simplify ratios</li> <li>Write in the form 1:n or n:1</li> <li>Convert between ratios and fractions</li> <li>Divide into a ratio</li> <li>Find missing parts in a ratio</li> <li>Solve problems interleaving ratio with other topics e.g. angles, perimeter etc...</li> <li>Know graphs of inverse and direct proportion</li> <li>Use direct proportion</li> </ul>		<u>Factorise, solve and sketch quadratics</u> <ul style="list-style-type: none"> <li>Factorise quadratics</li> <li>Solve quadratics by factorising</li> <li>Find roots of a quadratic function</li> <li>Sketch graph of a quadratic function</li> <li>Identify roots and turning points from a graph</li> <li>Draw the graphs of a quadratic function with and without a table of</li> </ul>		<u>Solve problems without a calculator</u> <ul style="list-style-type: none"> <li>Know exact trig values</li> <li>Use sin30 and cos 60 to find missing sides</li> <li>Practice exam questions involving</li> <li>Four operations written and mental methods</li> <li>Decimal arithmetic</li> </ul>										

	• Solve problems with inverse proportion	values	• Fraction arithmetic						
	<b>Notes/Links/Interleaving</b>	<b>Additional Higher Content</b> <i>Work to be differentiated in lessons to meet the needs of the student</i>			<b>Notes/Links/Interleaving</b>		<b>Additional Higher Content</b>		
	<b>Summer 1 – ‘Health &amp; Leisure’</b>				<b>Summer 2 – ‘Crime &amp; Punishment’</b>				
	<b>Algebra, Numbers &amp; Geometry</b>								
	<b>Notes/Links/Interleaving</b>	<b>Additional Higher Content</b>			<b>Notes/Links/Interleaving</b>		<b>Additional Higher Content</b>		