

SUBJECT

Mathematics GCSE (AQA)

Year 11

SUMMARY CURRICULUM PLAN

Subject content ( What will be covered) [Careers EAIG opportunities]	As a result, what students should know /understood <i>Higher Tier only in bold</i>	What students should be able to do	How students will be assessed	By when ( Half term 1 > 6)
<p><b>Number</b> (HIGHER 15% FOUNDATION 25%) [Estimation; primes and cryptography, Space and Science – working with very large and small values]</p>	<ul style="list-style-type: none"> <li>Factors, Multiples, Highest Common Factor and Lowest Common Multiple; Prime Factor products; Powers and roots, <b>Laws of indices, Surds and rationalising</b></li> <li>Calculations with roots, indices and pi; <b>Negative and Fractional indices</b> exact calculations; standard form</li> </ul>	<p><b>Read and interpret questions &amp; Solve problems by applying techniques and recalling formulae</b> AO1: <b>Use and apply standard techniques</b> Students should be able to:</p> <ul style="list-style-type: none"> <li>accurately recall facts, terminology and definitions</li> <li>use and interpret notation correctly</li> <li>accurately carry out routine procedures or set tasks requiring multi-step solutions.</li> </ul>	<p>Baseline  Assessment   Homework</p>	<p>September    Weekly</p>
<p><b>Algebra</b> (HIGHER 30% FOUNDATION 20%) [Modelling real life situations using algebra and graphs, speed distance time and Engineering]</p>	<ul style="list-style-type: none"> <li>Equations of straight line graphs; distance-time graphs; Gradient, <b>parallel and perpendicular lines; Find intercepts of 2 graphs, Acceleration and kinematics</b></li> <li>Quadratic functions; Sketching functions; Real life graphs;</li> <li>Sequences: rules, nth term, special sequences, quadratic sequences</li> </ul>	<p>AO2: <b>Reason, interpret and communicate mathematically</b> Students should be able to:</p> <ul style="list-style-type: none"> <li>make deductions, inferences and draw conclusions from mathematical information</li> <li>construct chains of reasoning to achieve a given result</li> <li>interpret and communicate information accurately</li> </ul>	<p>Topic  Examinations</p>	<p>Termly</p>
<p><b>Ratio, Proportion and Rates of Change</b> (HIGHER 20% FOUNDATION 25%) [Modelling growth and decay of real life populations, banking and interest rates]</p>	<ul style="list-style-type: none"> <li>Ratio, proportion; percentage change, <b>using multipliers, reverse percentages</b></li> <li>Compound units; Direct and Inverse proportion and graphs; Growth and decay; similar figures; <b>convert and use compound measures; Rates of change</b></li> </ul>	<ul style="list-style-type: none"> <li>present arguments and proofs</li> <li>assess the validity of an argument and critically evaluate a given way of presenting information.</li> </ul> <p>AO3: <b>Solve problems within mathematics and in other contexts</b></p>	<p>Mock Exam   Mock Exam</p>	<p>November   March</p>

		Students should be able to:		
<p><b>Geometry and Measures</b> (HIGHER 20% FOUNDATION 15%) [Symmetry and geometry in design and architecture, plans and elevations – floor plans and scale drawings]</p>	<ul style="list-style-type: none"> <li>• 3D shapes, Plans and elevations; Volume of Prisms, Surface area; <b>Similar figures</b></li> <li>• Pythagoras' Theorem; SOH CAH TOA Trigonometry, exact trig values; Vectors; <b>sine rule, cosine rule and sine formula for area of a triangle</b></li> <li>• Compound units</li> </ul>	<ul style="list-style-type: none"> <li>• translate problems in mathematical or non-mathematical contexts into a process or a series of mathematical processes</li> <li>• make and use connections between different parts of mathematics</li> <li>• interpret results in the context of the given problem</li> <li>• evaluate methods used and results obtained</li> <li>• evaluate solutions to identify how they may have been affected by assumptions made.</li> </ul>		
<p><b>Probability and Statistics</b> (HIGHER and FOUNDATION 15%) [being analytical, big data, testing hypotheses, backing up claims, evaluating, effective surveys, data presentation, trends in data]</p>	<ul style="list-style-type: none"> <li>• Frequency Diagrams; Averages and Spread; Scatter Graphs and Correlation; Time series; <b>Cumulative frequency and box plots</b></li> <li>• Probability of Combined events: Venn Diagrams, Possibility spaces; Tree diagrams, <b>Conditional probabilities</b></li> </ul>			