**FOUNDATION: Key Stage 4 Maths Curriculum**

**Long Term Plan Year 11 2024-2025**

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| **Autumn 1** | |
| **Chapter 19: Pythagoras, Trigonometry and Vectors** | **Chapter 20: Combined events** |
| **Assessment**  **Chapter Test A** | **Assessment**  **Chapter Test A** |
| **Builds Upon:**   * Apply the sum of angles rule in triangles | **Builds Upon:**   * Arrange sets into Venn diagrams |
| **Introduces**:   * Apply formulae for Pythagoras' theorem to find long sides Apply formulae for Pythagoras’ theorem to find short sides * Apply trigonometric ratios (sin/cos/tan) to find lengths * Apply trigonometric ratios (sin/cos/tan) to find angles * Know the exact values of sinØ and cosØ for Ø= 0, 30,45,60,90 degrees * Know the exact value of tan Ø for Ø= 0,30,45,60 degrees * Write column vectors and draw vector diagrams * Add and subtract vectors * Calculate multiples of vectors using a scalar | **Introduces:**   * Describe sets using Venn diagrams (intersection, union and complement) * Use Venn diagrams to record outcomes and calculate probabilities of events * Construct possibility (sample) space diagrams  Calculate probabilities from sample space diagrams * Use tree diagrams to show the frequency or probabilities of two events * Use tree diagrams to calculate the probabilities of independent and dependent events * Calculate estimated outcomes using probabilities |

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| **Autumn 2** | |
| **PPES** | **Chapter 21: Sequences** |
| **Assessment**  **2x 90 min exams** | **Assessment**  **Chapter Test A** |
|  | **Builds Upon:**   * Write sequence using term to term rule * Write sequences using position to term rule (nth rule) * Write the position to term rule (nth rule) for a linear sequence * Recognise special types of sequence (square, cube, triangular, arithmetic, geometric, Fibonacci and quadratic) |
|  | **Introduces:**   * Find terms of quadratic sequence using term to term or position to term rule |

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| **Spring 1** | |
| **Chapter 22: Units and Proportionality** | **Chapter 18: Graphs 2 (started)** |
| **Assessment**  **Chapter Test A** | **Assessment**  **Chapter Test A** |
| **Builds Upon:**   * Calculations using standard and compound units (speed, density and pressure) | **Builds Upon:**   * Plot linear graphs using tables of values * Plot and interpret real-life graphs |
| **Introduces**:   * Compare lengths, areas, and volumes of similar shapes * Solve direct proportion problems * Interpret the gradient of a straight line graph as a rate of change * Solve inverse proportion problems * Interpret graphs that illustrate direct and inverse proportion * Set up, solve and interpret growth and decay problems   **:** | **Introduces:**   * Plot quadratic functions * Identify and interpret roots, intercepts and turning points of quadratic functions * Solve quadratic equation by finding approximate solutions using graphs * Recognise, sketch and interpret graphs cubic functions * Recognise, sketch and interpret graphs reciprocal functions |

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| **Spring 2** | | |
| **PPEs and GCSE EXAM REVISION** | **Chapter 18: Graphs 2 (continued)** | **Chapter 23: Geometric Proofs (started)** |
| **Assessment**  **2x 90min exams** | **Assessment**  **Chapter Test A** | **Assessment** |
| **Builds Upon:** | **Builds Upon:**   * Plot linear graphs using tables of values * Plot and interpret real-life graphs | **Builds Upon:**   * **Apply angle rules including :**   + **Angles on a line**   + **Angles around a point**   + **Vertically opposite angles**   + **Parallel line rules**   + **Interior angle sum**   + **Exterior angles** * **Apply similarity and congruence to solve for missing sides and angles** * Construct exam quality style geometric proofs |
| **Introduces:** | **Introduces:**   * Plot quadratic functions * Identify and interpret roots, intercepts and turning points of quadratic functions * Solve quadratic equation by finding approximate solutions using graphs * Recognise, sketch and interpret graphs cubic functions * Recognise, sketch and interpret graphs reciprocal functions | **Introduces:** |

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| **Summer 1** | |
| **GCSE EXAM REVISION** | **Chapter 23: Geometric Proofs (continued)** |
| **Assessment:**  **3 x 90 min official public exams** | **Assessment**  **Chapter Test A** |
| **Builds Upon:** | **Builds Upon:**   * **Apply angle rules including :**   + **Angles on a line**   + **Angles around a point**   + **Vertically opposite angles**   + **Parallel line rules**   + **Interior angle sum**   + **Exterior angles** * **Apply similarity and congruence to solve for missing sides and angles** * Construct exam quality style geometric proofs |
| **Introduces:** | **Introduces:** |

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| **Summer 2** |
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