**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
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| **Introduces**:* Apply formulae for Pythagoras' theorem to find long sidesApply 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)
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|  | **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
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| **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
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| **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
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| **Introduces:** | **Introduces:** |

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| **Summer 2** |
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