Your **Mathematics**
Higher Tier
Journey

Further & Higher Education

A-level Maths (and Further Maths) lead to a wide variety of degree courses and apprenticeships. University studies can include: Sciences, Engineering, Statistics, Finance and Economics, Computing, in addition to Mathematics itself. A-level Maths also facilitates many other degree courses.

Careers

Maths degrees enable a vast range of careers, including : Construction, Accounting, Finance, Engineering, Scientific work, Business, Gaming, Education, Design Technology, etc. See the maths display wall outside M3 for further information.

Higher Tier Route

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AUTUMN
- Graphs of Trigonometric functions, Further Trigonometry, Collecting Data, Cumulative frequency, Box Plots and Histograms

SPRING
- Changing the subject of formulae (more complex), Algebraic fractions, Solving Equations arising from Algebraic Fractions, Rationalising surds, Proof

SUMMER
- Remaining content based upon setting. During the first half of the summer term, a lot of lessons will be spent completing past-papers and not covering new content.

- Quadratics, Expanding more than two brackets, sketching graphs, graphs of circles, cubes and quadratics, Circle Theorems, Circle Geometry

- Vectors and geometric proof, Reciprocal and exponential graphs, Gradient and area under graphs, Direct and inverse proportion

- Accuracy and bounds, Transformations, Constructions, loci and bearings, Solving quadratic and simultaneous equations

- Ratio and proportion, Polygons, Angles and Parallel lines Pythagoras Theorem and trigonometry, Graphs: the basics and real-life graphs

- Calculations, Checking and Rounding, Indices, Roots, Reciprocals and Hierarchy of Operations, Factors, Multiples, Primes, Standard Form and surds, Algebra: the basics, setting up, rearranging and solving equations

SUMMER
- Inequalities, Probability, Multiplicative reasoning, Similarity and congruence in 2D and 3D

SPRING
- Linear graphs and coordinate geometry, Quadratic, cubic and other graphs, Perimeter, area and circles, 3D forms and volume, cylinders, cones and spheres

AUTUMN
- Sequences, Averages and Range, Representing and Interpreting Data and Scatter Graphs, Fractions and Percentages

$$a(b+c) = ab + ac$$

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- Expanding Brackets, Volume, Probability, Changing the Subject

- Straight Line Graphs, Indices, Compound Measures, Scatter Graphs

- Plans & Elevations, Ratio & Proportion, Simultaneous Equations

AUTUMN   **SPRING**   **SUMMER**

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- Factorising, Loci (& review Constructions) , Percentages, Enlargements

- Quadratic Equations, Other Cartesian graphs, Fractions, Sampling, Sequences

- Arcs & Sectors, Cumulative Frequency

30% OFF SPECIAL OFFER!

$a^2 + b^2 = c^2$

- Straight Line Graphs, Simultaneous Equations, Volume of Prisms

- Bearings, Stem & Leaf Diagrams, Averages (and Spread), Scatter Graphs, Sampling Methods, FDP work

- Equations and change subject, Indices/Standard Form, Fractions (multiply / divide & mixed), Inequalities & Inequations

SUMMER   **SPRING**   **AUTUMN**

- Pythagora's Theorem, Contructions, Factorising, Rounding & Estimating, Inference & Errors

- Speed & DST graphs, Real-Life graphs, Transformations (all 4), Ratio, Circle calculations

- Probability & Sets, Changing the subject, Areas & Surface Area, Angles, Angle rules & Polygons, Bearings & Scale drawings , Stem & Leaf, Discrete Averages

8

- Negative Numbers, Fractions, Collecting Terms, Properties of Numbers, Venn Diagrams

- Coordinates & graphs, Parallel Lines, Formulae, 3D shapes, Forming Equations & Sequences

- Statistical diagrams, Fractions, Data Analysis, Constructions, FDP analysis, Further Equations

AUTUMN   **SPRING**   **SUMMER**

7

- Measure, Angle rules, Perimeter & Area, BIDMAS, Equations , Symmetry

- Volume, Transformations, Decimals, Written Calculations (all operations, including decimals)

- The Circle (vocabulary and Pi calculations), Probability, Frequency Trees

Perseverance • Kindness • Family • Respect • Positivity • Aspiration • Community

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