

# Mathematics Vision

## Reasoning behind the Maths Curriculum

### Intent

Through careful sequencing of a broad range of topics, we provide our students with the opportunity to develop a deep, internalised understanding of our subject that supports their fluency of learning. The faculty strives to nurture the mathematician in every student so that they can comfortably apply reasoning and problem-solving skills in a range of subjects and be able to draw upon these skills during their adult life.

### Goal for Every Student

Whilst students often arrive from primary with the fundamentals, it is the firm grasp, enabling the all-round application in many contexts with a conceptual understanding, that needs developing. We believe that mastery provides the required foundations to enable students to gain the knowledge and understanding required, both for GCSE and beyond, whilst simultaneously giving them the confidence that they can “do” maths.

To this end, students in years 7, 8 and 9 follow a mastery curriculum. The topics studied are shown in the table below. They also follow the Key Stage 3 National Curriculum. We prefer to think that, having worked on these essential skills, the foundations, we move on to the other aspects of the subject, that are underpinned by them, for the remaining 2 of the 5 years.

This is well planned through our progressive learning cycles where each student carries out entry tests, exit tests and GEM tasks for each topic.

For GCSE, students follow the Edexcel specification 1MA0 at either Foundation or Higher Tier as appropriate. Whilst students work for a specific tier for exam entry during years 10 and 11, the tiers are not finalised until after the mocks in Year 11, to ensure students are entered as most appropriate for them individually.

We offer A-Level maths in the sixth form, and also Further Maths A-Level. Students are entered for AS-Level at the end of Year 12. The specification for A-level is set, and is made up of two-thirds pure and one-third applied (Mechanics & Statistics). We use the Edexcel courses 8MA0 and 9MA0 for the Maths AS and A-Level course.

There are optional units available at Further Maths. Students have to sit Core Pure 1 in year 12 and Core Pure 2 in Year 13. We are currently teaching the Decision 1 and Further Pure 1 units. Again, we use Edexcel’s course. The codes are 8FM0 and 9FM0 for AS and A-Level.

### Implemented pace

Year 7 Mastery Units	Year 8 Mastery Units	Year 9 Mastery Units
Place Value Addition and Subtraction Multiplication and Division Fractions (part 1) Statistics (part 1) Negative Numbers Algebra (part 1) Lines & Angles	Fractions (part 2) Percentages Algebra (part 2) Circles and Area Ratio, Proportion & Rates of Change Statistics (part 2) 3D Shapes <b>TO FINISH:</b> Cross-curricular Statistical Project with Geography.	Basic Number & Decimals Rounding & Bounds Fractions & Percentages cont. Basic Algebra Substitution, Formulae & Equations Angles, Plans, Elevations & Polygons Averages & Range Sequences Construction, Loci & Scale Drawings Factors & Multiples Formulae (Forming & Solving) Ratio & Proportion Indices & Standard Form Quadratics & Inequalities

### Impact

Students are set for maths from early in year 7. This is based upon both their Key Stage 2 Standardised Score and our initial baseline tests. We regularly analyse results and progress to ensure that students are in the most appropriate set for them. As well as supporting their learning, we believe that sets reduce the chances that students feel they are struggling, in relation to others in their class.