

A LEVEL MATHEMATICS

Examination Board Specification: Edexcel 9MA0

Why Study Mathematics?: Higher level Mathematics is becoming more beneficial in a world that is technologically dependant. Alongside teaching students the necessary building blocks for many other subjects such as Physics, Engineering and Economics, we also aim to develop the students' ability to think and tackle problems in a logical and systematic manner. These thinking and study skills will produce highly effective learners in all subjects, not just great Mathematicians.

A level Further Mathematicians MUST study A level Mathematics.

Content and Assessment of the Course:

Year 12 and 13 content			
Topic 1	Pure Mathematics 1	120 minute examination	33$\frac{1}{3}$%
This unit includes much of what has been studied at GCSE, extending this to set a firm foundation for the Pure Mathematics done throughout A level. Students will be learning: Proof; Algebra and Functions; Coordinate Geometry in the (x,y) plane; Sequences and Series; Trigonometry; Exponentials and Logarithms; Differentiation; Integration and Vectors. This will be very similar to the material covered previously in Core Mathematics 1 and Core Mathematics 2 courses from the old specification, with the exception of the addition of Vectors.			
Topic 2	Pure Mathematics 2	120 minute examination	33$\frac{1}{3}$%
This unit expands on the work done in Pure Mathematics 1, taking the topics learned previously and expanding upon them. Students will be learning: Proof; Algebra and Functions; Coordinate Geometry in the (x,y) plane; Sequences and Series; Trigonometry; Differentiation; Integration and Numerical Methods. The will be very similar to the material covered previously in Core Mathematics 3 and Core Mathematics 4 courses from the old specification, with the exception of some of the Proof topics.			
Topic 3	Statistics and Mechanics	120 minute examination	33$\frac{1}{3}$%
These topics are very similar to the Statistics 1 and Mechanics 1 courses from the old specification. In Statistics students will be learning about Statistical sampling, Data presentation and Interpretation, Probability, Statistical Distributions and Statistical Hypothesis testing. In Mechanics students will be learning about Quantities and units in Mechanics, Kinematics, Forces and Newton's laws and Moments. This unit is split in to two sections (Statistics and then Mechanics) and half the marks are awarded for each section.			

Additional Information: In Year 13 Students will be sitting a Senior Mathematics Challenge in which they can show case their problem solving skill with a chance to compete nationally. The Senior Mentoring Scheme runs throughout both Year 12 and 13 and students can opt in to this, taking monthly problems and discussing them in groups of students and with teachers once a week. A Mathematics help club will run twice per week at lunchtimes which students are welcome to attend to discuss problems with homework and class work. A teacher will be present, as will able mathematicians from Year 13.

A full specification can be found at:

<http://qualifications.pearson.com/content/dam/pdf/A%20Level/Mathematics/2017/specification-and-sample-assesment/a-level-l3-mathematics-specification.pdf>

WHSB usually also offer the following enrichment for Sixth Form mathematicians: STEP/MAT club, Project Euler, UKMT Senior Team Mathematics Challenge, Architecture Day, talks from visiting mathematicians, visits to London Universities for Mathematics lectures, a national Cipher Challenge and a national Engineering Challenge. One or two of these events may not be run in some years due to staffing, but many of them will be available.

Entrance Requirements: GCSE grade 7, 8 or 9 in Mathematics.