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.

Content and Assessment of the Course:

Year 12 and 13 content			
Topic 1	**Pure Mathematics 1**	**120 minute examination**	**33⅓%**
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.			
Topic 2	**Pure Mathematics 2**	**120 minute examination**	**33⅓%**
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.			
Topic 3	**Statistics and Mechanics (Applied Mathematics)**	**120 minute examination**	**33⅓%**
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.			

Students will be taught Pure and Applied topics separately. Currently 6 lessons per fortnight are devoted to Pure topics and 4 lessons per fortnight are for Applied topics.

Additional Information: 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.

WHSB usually also offer the following enrichment for Sixth Form Mathematicians: STEP/MAT club, UKMT Senior Mathematics Challenge, UKMT Senior Team Challenge, talks from visiting mathematicians, visits to Universities for Mathematics lectures and the Mathematical Olympiad/Competition for Girls.

Students also have the opportunity to be involved with the wider Mathematics Enrichment of the school to aid younger Mathematicians. This includes becoming a Maths Prefect, mentoring students in younger years with their maths and running extra-curricular clubs. These clubs and activities are very popular with many students. Clubs that have been run in the past are the Mathematics Society and Countdown Club. Students also create displays and Mathematics based assemblies to celebrate Maths Events such as Global Maths Week or Pi Day.

Entrance Requirements: GCSE grade 7, 8 or 9 in Mathematics. There is a GCSE Algebra Test that students must take upon starting the course to determine their level of understanding.