***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.

**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 understanding.