A LEVEL MATHEMATICS AND FURTHER MATHEMATICS
(Edexcel specifications)

Mathematics can be studied in combination with any other subjects and is an excellent preparation for many degree courses. The course is designed to develop students' resourcefulness in solving problems and their grasp of mathematical reasoning. It enables students to apply mathematics to other disciplines and provides them with a foundation for further study of the subject.

MATHEMATICS
In both the first and second year of the course students study Pure Mathematics (two thirds of the course) and Applied Mathematics (comprising of Statistics and Mechanics which are equally weighted). At the end of the second year students take **A Level Mathematics,** consisting of two Pure exams and one Statistics and Mechanics exam. The exams test all topics studied in both years of the course. All exams require the use of a calculator with specific capabilities. We recommend the *Casio FX-991CW (*which is available to purchase through the school), or the older *Casio FX-991EX*.

Pure Mathematics widens students' knowledge to include areas such as algebra, calculus, trigonometry, numerical methods, co-ordinate geometry and vectors. Mechanics and Statistics both look at how mathematics is used in the real world. Mechanics develops the study of the motion of bodies and the effects of forces on them, while Statistics involves the analysis of numerical data and the development of probability and distribution theory. Mathematics sits well with humanities or science subjects and is particularly useful for those who may wish to follow a career in medicine, accountancy, finance or general management.

Mathematics is not a subject which requires the learning or retention of a lot of facts. Rather it requires the understanding of a limited number of concepts and techniques and how to apply these to a range of situations. If a student works conscientiously throughout the course, mastering the necessary methods and learning how to apply them, there should not be an undue workload prior to examinations.

It may be possible for high achieving students to study an additional course in AS Further Mathematics in the Upper Sixth Year, resulting in qualifications of **A Level Mathematics and AS Level Further Mathematics**.

A LEVEL MATHEMATICS WITH A LEVEL FURTHER MATHEMATICS
This is a course of **two A Levels** for students whose main interest lies in Mathematics and/or Physics. It provides a particularly strong platform for a Mathematics degree course. In combination with Physics, it is also a rigorous preparation for degrees in Physics and Engineering.

Students following this course complete the content for the A Level Mathematics course in the Lower Sixth Year and focus on the content for the Further Mathematics in the Upper Sixth Year. In addition to the topics studied in the single mathematics course, students will study for a Further Pure exam and two Further Mechanics exams. The Further Pure units extend the topics studied in the A Level Mathematics course as well as introducing complex numbers, hyperbolic functions and linear algebra.

GCSE minimum requirements:

Mathematics
Mathematics – grade 6 (students with a grade 6 will be expected to attend additional support lessons)
English Language – grade 4

Further Mathematics
Mathematics – grade 7
English Language – grade 4

Students who wish to take two or more from Biology, Chemistry, Physics, Maths and Further Maths will need at least one grade 7 in a relevant science or Maths