Mathematics

Qualifications

Exam board: OCR Mathematics B (MEI) H640 (full A level) (two year course)

Entry Requirements

A minimum of 5 passes at grade 5 or grade C (including English and Maths). A minimum of a grade 6 (preferably 7) in GCSE Maths and in addition students should have studied grade 7, 8, 9 material and have particularly strong algebraic skills.

Skills Required

Strong candidates will have a range of skills, for example good study skills, an enquiring mind, problem solving skills, mathematical ability and the ability to relate to abstract concepts. A good grasp of algebra is essential.

Students will be expected to do a substantial amount of work outside of lesson time in order to fully develop their skills and knowledge, so good organisation and the ability to meet deadlines are essential for examination success in this subject.

Course Outline

AS and A level Mathematics builds on GCSE Mathematics, with topics such as trigonometry, coordinate geometry and algebra. We will also look at developments of the number system and the application of mathematics in problem solving. Pure Mathematics forms the foundations of all mathematics and includes the study of calculus, sequences, functions and numerical solutions. It also includes some applications of mathematics.

In Statistics, you will develop further methods to represent data, deal with probability, look at permutations and combinations, and how to test hypotheses.

In Mechanics you will learn to model different situations, for example constant acceleration and friction. You will learn how to use vectors and deal with forces that produce motion.

Student Testimony

“I really enjoyed Post 16 Mathematics; the range of different skills we learned and the constant challenge made every lesson different and interesting. The enthusiasm of the teachers meant that the lessons were always engaging as well as informative.”

Career Paths & Degree Courses

A Level Mathematics is a much sought after qualification for entry into a wide range of careers and higher education courses and is considered a facilitating subject by Russell Group Universities. Courses or careers that either require A Level Mathematics or are strongly related include: economics, medicine, architecture, engineering, accountancy, teaching, psychology, physics, computing and information and communication technology.

There are also many areas of employment that see a Mathematics A level as an important qualification and it is often a requirement for the vocational qualifications related to these areas. Graduates of mathematical based courses can go on to highly paid careers, in some cases substantially higher than other disciplines. Employers believe that Mathematics teaches people how to think carefully and regard numerate people highly.

Year 12 and Year 13

The A2 course is examined by a 2 hour examination on Pure Mathematics and Mechanics, a 2 hour examination on Pure Mathematics and Statistics and a 2 hour examination on Pure Mathematics and Comprehension.