



A Level Mathematics

AIMS OF THE COURSE

- To strengthen and extend existing knowledge and understanding of Mathematics from GCSE, as well as introduce and explore a variety of new concepts.
- To explore the various applications of Mathematics and to be able to apply existing and new skills to modelled situations.
- To encourage students to be able to interpret a problem and be able to analyse these mathematically, constructing a mathematical argument.

PRE-REQUISITES

Pupils wishing to study maths at A Level should have a real love for the subject along with a strong work ethic. A potential student should be a strong mathematician that is capable of interpreting a problem and choosing an appropriate method to be able to work through to a solution. A potential student should also be able to formally structure a mathematical argument using equations and correct mathematical notation consistently and accurately.

COURSE CONTENT

The A Level course is broken down into three key areas- **Pure Mathematics**, **Mechanics** and **Statistics**.

- **Pure Mathematics** - this involves building upon a lot of the skills learned at GCSE and extending these as well as looking at their applications e.g. algebra, trigonometry and coordinate geometry. This course will also introduce a host of new areas of maths e.g. calculus, logarithms and sequences and series.
- **Mechanics** - this unit of study looks at modelling situations in real life and then working through them

algebraically. Some examples of topics to be covered are “kinematics”- the study of how things move, “dynamics”- the study of why things accelerate, “statics”- the study of why things do not move.

- **Statistics** - You will recap and build upon the statistics elements of the GCSE course such as averages and tables in data as well as looking at various tests that you can carry out on data to look for correlation as well as being able to calculate probabilities from increasingly complex scenarios.

ASSESSMENT

You will be assessed internally throughout the course to check that you are on track. The course is formally assessed through three examination papers that will be sat at the end of Year 13. These examination papers will look at the three strands mentioned above however “Pure Mathematics” will count for 66.7% of your final grade with “Mechanics” and “Statistics” being equally weighted to make the remaining 33.3%.

CAREER OPPORTUNITIES

Employers and Universities both value an A Level in Mathematics. Even if you do not wish to study Mathematics at University it is referred to as a “facilitating subject” and will be welcomed on the majority of courses.

ENTRY REQUIREMENTS

The minimum entry requirements for Level 3 academic study apply. In addition, a Grade 6 in GCSE Mathematics is required, however Grade 7+ is highly recommended.