

GCSE Mathematics

Style of course

Mathematics is a core subject in the National Curriculum and hence is compulsory for all students. The importance of mathematics is reflected in the technical environment in which we live. It is an essential subject for other disciplines and a good GCSE in mathematics is a common prerequisite both in employment and in higher education. We aim to equip our pupils with the necessary skills to enable them to progress to further and higher education. We wish to instil in them an enjoyment and enthusiasm for the subject which will encourage them to continue their mathematical studies post GCSEs.

Our mathematics course is designed to enable pupils to:

- 1) Develop fluent knowledge, skills and understanding of mathematical methods and concepts
- 2) Acquire, select and apply mathematical techniques to solve problems
- 3) Reason mathematically, make deductions and inferences, and draw conclusions
- 4) Comprehend, interpret and communicate mathematical information in a variety of forms appropriate to the information and context.

Structure of the course

- 1) Number
- 2) Algebra
- 3) Ratio, proportion and rates of change
- 4) Geometry and measures
- 5) Statistics
- 6) Probability

Structure of the examination

There are three written papers in Higher tier GCSE Mathematics. The first is non-calculator and in the other two papers, a calculator is allowed. Each paper is 1 hour and 30 minutes in length and is worth 80 marks. Each paper will contain a full range of question types including problem solving, proof and contextual problems. The content outlined above will be assessed across all three papers. There are three assessment objectives, which are AO1 – using and applying standard techniques (40%); AO2 – reason, interpret and communicate mathematically (30%); AO3 – solve problems within mathematics and in other contexts (30%).

Teaching and learning

In Mathematics, pupils are encouraged to ask questions and attempt various mathematical approaches to a variety of different problems in a safe and inspirational environment where there is no fear of failure. During lessons, pupils have the opportunity to work both independently and together in pairs or groups. Outside of lessons, pupils are encouraged to develop as independent learners by regularly revising and practising extra questions in addition to completing the set homework tasks.