

# *Mathematical Studies (AS)*

## *About the Subject*

The AS Mathematical Studies course aims to build on the knowledge, understanding and skills established at GCSE. This is a linear qualification which is designed to be studied over two years, with a final exam taken at that point.

The focus is to consolidate student's mathematical understanding and build both their confidence and competence in applying a range of mathematical techniques to solve a variety of problems. The course introduces new techniques and concepts that will prepare them for further study and future employment within a broad range of academic, professional and technical fields.

Mathematical Studies aims to prepare students for the mathematical demands of higher education and work, where there is a distinct mathematical element, but where the mathematical demands do not stretch to a requirement for A Level Mathematics.

## *Course Content*

### **Students will be expected to:**

- Develop and demonstrate confidence and competence in the understanding and application of calculations in the solution of problems relating to personal finance.
- Become familiar with and gain confidence in ideas concerning the formulation of mathematical models.
- Develop and demonstrate confidence and competence in the understanding and application of statistical techniques, interpreting data and drawing conclusions in the solution of problems.

### **To further the links with other subjects, there will be a focus on research methods. Students will also be expected to:**

- Use the data and models they are given and to be mathematically critical of these.
- Recognise that many things closely follow a normal distribution, e.g. heights of people, size of things produced by machines, errors in measurements, blood pressure, marks on a test etc. In these and similar situations, a graph of the distribution will have a 'bell' shaped curve.
- Understand the sampling process and the underlying populations.
- Recognise and use correlation and regression for pairs of data.