



Sixth Form Subject Guide

MATHEMATICS AND FURTHER MATHEMATICS

★★★ CAREERS RELATED TO STUDYING THIS SUBJECT

If you choose to study Mathematics or Further Mathematics, you will develop a variety of problem-solving skills and analysis techniques that are applicable to a wide range of industries. Mathematicians can be found working in a vast array of fields from design as architects or engineers, as well as finance as accountants or actuaries and at board level for many industries as risk analysts and operators.

You could consider careers in software engineering, computational genetics, forensic psychology, marketing analysis, computer game design and many more.

★★★ A LEVEL COURSE CONTENT

For the Mathematics (9709) and the Further Mathematics (9231) courses the content covered is encompassed under the following topics: Number and Algebra, Functions, Geometry and Trigonometry, Mechanics, Statistics and Probability, and Calculus, with each of these having their own subsets within them.

The mechanics units within the A Level course are more focussed on the applications of mechanics, as opposed to the pure theoretical elements of kinematics.

★★★ A LEVEL METHODS OF ASSESSMENT

For the A Level in Mathematics and the A Level in Further Mathematics, students are required to sit 4 papers: 2 pure, 1 mechanics and 1 statistics paper for each qualification.

The Pure Mathematics components are both 1 hour and 50 minutes long and are marked out of 75 marks; each component is weighted 30% towards the A Level. The Mechanics and Statistics components are 1 hour and 15 minutes long and are marked out of 50 marks; each component is weighted 20% towards the A Level. Students will require a scientific calculator for each exam and graphics display calculators are not permitted.

★★★ METHODS OF STUDY FOR A LEVEL

Strategies include the learning of laws within Mathematics as well as the applications of these laws beyond the realms of Mathematics. Students will be expected to demonstrate an understanding through presenting their models and arguments in written form or group discussion.

Students will produce a lot of work independently and practice skills to develop a deeper understanding of how they work in order to apply them elsewhere and link them to other mathematical concepts. Whilst Mathematics naturally requires recalling a lot of information, both courses are designed with formula booklets and this puts more emphasis on the interpretation and problem solving required for Mathematics, as opposed to recall. It is less about knowing and more about understanding.

★★★ ENTRY REQUIREMENTS FOR A LEVEL

For A Level Mathematics you need to have achieved a Grade B (or equivalent) and for A Level Further Mathematics we require that you have achieved a Grade A.