

# A Level Mathematics

## What is Mathematics?

A level maths gives you transferable skills needed for the real world including logical and analytical skills as well as problem solving. Our opinion is that mathematics gets more interesting the further you take it. At GCSE you built the foundations so that you have the tools which will enable you to understand many interesting A-Level topics.

## Why study Mathematics?

We believe Maths is worth studying for its own sake, but past students have found careers in commerce, administration, science, engineering and design - any sphere, in fact, is glad to have competent mathematicians. Many of our students enter Higher Education, in many different subjects as well as those who choose to study Maths at degree level. Some find employment directly after A Levels.

## What makes a successful Mathematics student?

A good Maths student usually demonstrates a number of characteristics. A good level of mathematical ability is a must but also a willingness to have a go at something that may seem daunting at first is also the key. With perseverance most problems can be solved and this sort of academic resilience will be the key to success in this subject.

## To study this course, what qualifications will I need and in which subjects?

You should have done well at GCSE Maths; a grade 6 is normally expected. You must have an enthusiasm for the subject, be competent with algebra and enjoy solving problems. You must be prepared to work hard - it is going to be a lot more difficult than GCSE Maths but it is immensely rewarding.

## What is the structure of the course?

A-Level Topics	
<p><b>Pure Mathematics</b> Proof, Algebra and functions, Coordinate geometry, Sequences and series, Trigonometry, Exponentials and logarithms, Differentiation, Integration, Numerical methods.</p> <p><b>Mechanics</b> Vectors, Quantities and units in mechanics, Kinematics, Forces and Newton's law, Moments.</p> <p><b>Statistics</b> Statistical sampling, Data presentation and interpretation, Probability, Statistical distributions, Statistical hypothesis testing.</p>	<p><b>Paper 1 - Pure Mathematics and Mechanics (36.4%)</b> 2 hour written exam comprised of two sections of shorter method related questions and longer application questions based on the content from the pure mathematics topics and mechanics topics.</p> <p><b>Paper 2 - Pure Mathematics and Statistics (36.4%)</b> 2 hour written exam comprised of two sections of shorter method related questions and longer application questions based on the content from the pure mathematics topics and statistics topics.</p> <p><b>Paper 3 - Pure Mathematics and Comprehension (27.3%)</b> 2 hour written exam comprised of two sections of shorter method related questions and longer application questions along with a comprehension section using the content from the pure mathematics topics only.</p>

## What opportunities are there for me to study beyond the classroom?

We provide our students with the opportunity to enhance their learning through the use of web-based materials. These are available through the MEI Integral website.

## What kind of career does this subject/qualification prepare me for?

On average people who have done A Level Maths earn 10% more than those who haven't. Even those who don't get the top grades earn 8% more. Possible career paths include finance, computing, engineering, statistics and business.