



A Level Mathematics

Key contacts: Mrs Davies (Head of Department)
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Exam Board: Pearson Edexcel

Overview of the course:

A Level Mathematics builds on GCSE Mathematics as well as introducing a number of new topics.

Why choose Mathematics?

Enjoyment: understand Mathematics and mathematical processes in a way that promotes confidence, fosters enjoyment and provides a strong foundation for progress to further study.

Problem solving: use your mathematical knowledge to make logical reasoned decisions in solving problems both within pure mathematics and in a variety of contexts, and communicate the mathematical rationale for these decisions clearly. Recognise when Mathematics can be used to analyse and solve a problem in context.

Logical thought: reason logically and recognise correct reasoning, generalise mathematically and construct mathematical proofs.

Key skills: use technology such as calculators and computers effectively, and recognise when such use may be appropriate. To take increasing responsibility for your own learning and the evaluation of your own mathematical development.

You may already be thinking beyond A Level, to a Mathematics based or related subject or you may just enjoy Mathematics, in which case A Level Mathematics, would be an ideal option for you.

What will you study?

The course consists of four main areas:

Mathematical processes which consist of mathematical arguments and language, problem solving and mathematical modelling.

Pure Mathematics which includes proof, algebra, graphs, sequences, trigonometry, logarithms, calculus and vectors.

Mechanics which includes kinematics, motion under gravity, working with forces including friction, newton's laws and simple moments.

Statistics which includes working with data from a sample to make inferences about a population, probability calculations, using binomial and Normal distributions as models and statistical hypothesis testing.

If you would like any further information about the A Level courses available in Mathematics, please discuss it with your teacher.

Assessment

A Level Mathematics is a two year course with terminal examinations at the end of Year 13. There will be regular internal assessments to help judge your progress throughout the course.

Possible career path?

Mathematics at Advanced Level opens doorways to many potential careers. It is fundamental to the further study of mathematical based subjects, science subjects, and all kinds of engineering and technology. It is very useful in biological subjects, in geography and economics, in business and management studies, accountancy, operational research, banking, and education, to name a few.

Graduates of mathematical based courses can go on to highly paid careers, in some cases substantially higher than other disciplines. Employers believe that mathematics teaches people how to think and regard numerate people highly.

Entry requirements

If you are considering studying Mathematics as an A Level subject you will need to:

- Have attained five GCSEs Grade 9-5 including English
- GCSE Mathematics at Grade 7 or above, and
- Have enjoyed most of the Mathematics you have studied so far

For information on reasons for choosing Mathematics and/or Further Mathematics please go to <https://amsp.org.uk/> and browse the Student Area.

It is strongly advised that students have a Casio CG 50 for the course. These can be purchased from the department in September.