

A Level Mathematics



Introduction

A Level Mathematics provides students with a strong foundation in mathematical reasoning, problem-solving, and analytical thinking. The course covers both pure mathematics and applied topics, including statistics and mechanics. Students will explore concepts such as algebra, calculus, and vectors, and apply these to real-world scenarios and abstract problems.

If you enjoy working with numbers, solving complex problems, and want to develop logical thinking skills that are valuable in science, economics, computing, and engineering, then this is the subject for you.

What will I learn?

A Level Mathematics deepens your understanding of both abstract theory and practical problem-solving. The course is divided into pure mathematics, statistics, and mechanics – all of which build your ability to think logically and apply mathematical methods in real-world and academic settings.

In pure mathematics, you will develop key skills in algebra, trigonometry, calculus, and coordinate geometry. These form the foundation for solving equations, analysing graphs, and understanding how rates of change and motion can be modelled mathematically.

Statistics introduces techniques for collecting, interpreting, and analysing data. You will learn about probability, statistical distributions, and hypothesis testing – all vital for making informed decisions and working with uncertainty.

Mechanics explores how maths describes physical systems. You will study motion, forces, and Newton's laws, gaining insight into the way objects move and interact, which is especially relevant to physics and engineering.

This course gives you the tools to model, analyse, and solve problems with clarity – skills valued in many disciplines including science, economics, and computing.

How will I be assessed?

Component	Type	Duration
Paper 1: Pure	Exam	2hrs
Paper 2: Pure	Exam	2hrs
Paper 3: Applied: Statistics and Mechanics	Exam	2hrs

All components are externally assessed – no coursework.

Assessment includes:

- Short and structured questions
- Real-world applications
- Use of a calculator throughout

Opportunities

You will develop logical thinking, resilience, and analytical reasoning – skills that are highly valued in any academic or career path. Maths students often compete in national competitions (like the UKMT Senior Maths Challenge) and participate in STEM enrichment events and university masterclasses.

Other subjects?

A Level Mathematics complements a wide range of subjects including:

- Physics, Chemistry, and Biology
- Economics, Business, and Computer Science
- Geography, Psychology, and Engineering

It also supports further study in mathematics-related university courses.

Future Careers

Mathematics is one of the most sought-after qualifications by universities and employers. It opens doors to degree courses in mathematics, physics, engineering, economics, computer science, finance, actuarial science, architecture, and more. This subject demonstrates strong analytical and problem-solving abilities – valuable in nearly every industry.

Course Information

Course Code - 9MA0

Examination Board - Pearson Edexcel