

mathematics

A Level Mathematics Exam Board: Edexcel

Course content

A level mathematics builds from GCSE and introduces calculus. It emphasises how mathematical ideas are interconnected, and how mathematics can be applied to model situations using algebra. Students learn how to make sense of data, to understand the physical world and to solve problems in a variety of contexts. It prepares students for further study in a wide range of disciplines.



Pure Maths (Two Thirds)

Algebra and functions
Proof
Coordinate geometry
Sequences and Series
Trigonometry
Exponentials and Logarithms
Calculus: Differentiation
Calculus: Integration
Numerical methods
Vectors

Applied Maths (One Third)

Data presentation and interpretation
Correlation
Probability
Statistical distributions
Statistical hypothesis testing
Kinematics
Forces and Newton's laws
Moments

Assessment:

Paper 1: 2 hours – Pure
Paper 2: 2 hours – Pure
Paper 3: 2 hours – Applied (Statistics and Mechanics)

Aims of the Course:

Understand mathematics in a way that promotes confidence, fosters enjoyment and provides a strong foundation for progress to further study.

Understand how different areas of mathematics are connected.

Reason logically and recognise incorrect reasoning.

Construct mathematical proofs.

Use correct notation to communicate their ideas.

Use their mathematical skills to solve challenging problems which require them to decide on a strategy.

Use calculators effectively.

Take increasing responsibility for their own learning and mathematical development.

Progression:

Mathematics is a highly valued qualification by all universities. It is consistently the most popular A level choice in the UK. It goes well with any combination of subjects, and may be of particular use to students considering reading medicine, sciences, computing, economics, social sciences, psychology and any other numerate subject at university.

Entry Requirements:

Grade 7 or above in GCSE

Mathematics (Students who achieved a very high grade 6 may be considered on a case by case basis at the discretion of the Head of Maths).