



SNA A-level Mathematics

AQA A-Level Mathematics: Course Overview

Why Study A-Level Mathematics?

A-Level Mathematics is one of the most valuable and widely respected qualifications, combining logical reasoning, problem-solving, and real-world application. It's essential for many university courses and careers, especially in science, technology, engineering, and finance.

Whether you're aiming for a STEM-related degree or simply enjoy working with numbers and solving problems, A-Level Maths is a versatile and highly regarded choice.

Who Is This Course For?

- Students who enjoyed and succeeded in GCSE Mathematics
- Anyone planning to study subjects like physics, engineering, economics, computer science, or medicine

What Will You Study?

AQA A-Level Mathematics is a two-year linear course, meaning all assessments take place at the end of Year 13. The course is made up of **Pure Mathematics**, **Statistics**, and **Mechanics**.

◆ 1. Pure Mathematics

This forms the foundation of the course and includes:

- Algebra and functions
- Coordinate geometry
- Trigonometry
- Calculus (differentiation and integration)
- Vectors
- Proof
- Sequences and series
- Exponentials and logarithms

These topics develop logical thinking and introduce mathematical techniques used in both abstract mathematics and real-world modelling.

◆ 2. Statistics

This area involves collecting, analysing and interpreting data:

- Statistical sampling
- Data presentation and interpretation
- Probability
- Statistical distributions (e.g., binomial, normal)
- Hypothesis testing

Statistics is widely used in psychology, biology, economics, and social sciences.

◆ 3. Mechanics

Mechanics involves applying mathematics to physical situations:

- Kinematics (motion in a straight line)
- Forces and Newton's Laws
- Moments
- Constant acceleration
- Variable acceleration
- Energy, work, and power

Mechanics is particularly relevant for students interested in physics, engineering or architecture.



How Will You Be Assessed?

At the end of the two years, you will sit **three written exams**, each lasting **2 hours**:

- **Paper 1: Pure Mathematics 1**
- **Paper 2: Pure Mathematics 2**
- **Paper 3: Statistics and Mechanics**

Each paper is worth one-third of the final grade and includes a mix of short and long questions.

Where Can A-Level Maths Take You?

A-Level Mathematics is highly valued by universities and employers alike. It opens doors to a range of degree courses and careers, such as:

- Mathematics
- Engineering
- Physics
- Computer Science
- Economics and Finance
- Architecture
- Data Science
- Medicine (some courses prefer it alongside Chemistry and Biology)

It also strengthens problem-solving and analytical skills that are applicable in almost any field.

Key Benefits of Studying A-Level Maths

- Builds strong problem-solving and logical thinking skills
 - Complements subjects like Physics, Chemistry, Biology, and Economics
 - Offers excellent preparation for university and careers
 - Encourages precision, resilience, and structured thinking
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Is A-Level Maths Right for Me?

If you enjoy solving problems, working with numbers, and have a solid grasp of algebra and GCSE Maths, then A-Level Maths is a great choice. It's challenging but highly rewarding, and provides a strong foundation for future study and employment.

Complementary Subjects

A-Level Maths pairs especially well with:

- **Physics**
 - **Further Mathematics**
 - **Economics**
 - **Chemistry**
 - **Computer Science**
 - **Biology**
 - **Psychology**
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Want to Know More?

Visit the Maths Department during the open evening to:

- Speak with teachers
- Speak with current A-level students
- See example student work
- Try out some engaging maths challenges
- Learn about support available for students