

# Maths

## Edexcel A level Mathematics



Maths is a fundamental skill that underpins a variety of specialist skills. Taking an A-level in Maths is often the first step into a rewarding career. A-level Maths is generally considered challenging due to its advanced topics and rigorous problem-solving requirements. It can help you develop a strong understanding of algebra, statistics, and improve your analytical & logical thinking skills. It has been found that **people who take A-level maths earn an average of 11% more over their lifetime**

### Topics you will study

#### **Paper 1: Pure Mathematics 1 (\*Paper code: 9MA0/01)**

#### **Paper 2: Pure Mathematics 2 (\*Paper code: 9MA0/02)**

##### Content overview

- Topic 1 – Proof
- Topic 2 – Algebra and functions
- Topic 3 – Coordinate geometry in the (x, y) plane
- Topic 4 – Sequences and series
- Topic 5 – Trigonometry
- Topic 6 – Exponentials and logarithms
- Topic 7 – Differentiation
- Topic 8 – Integration
- Topic 9 – Numerical methods
- Topic 10 – Vectors

#### **Paper 3: Statistics and Mechanics (\*Paper code: 9MA0/03)**

##### Content overview

##### **Section A: Statistics**

- Topic 1 – Statistical sampling
- Topic 2 – Data presentation and interpretation
- Topic 3 – Probability
- Topic 4 – Statistical distributions
- Topic 5 – Statistical hypothesis testing

##### **Section B: Mechanics**

- Topic 6 – Quantities and units in mechanics
- Topic 7 – Kinematics
- Topic 8 – Forces and Newton's laws
- Topic 9 – Moments

### Why study this subject?

Sometimes it can seem a bit abstract, but Maths is an incredibly valuable subject to study at A Level that can equip you with a range of skills to support your future from problem solving to logical thinking. Here are five reasons why you might want to consider studying Maths

1. Maths teaches problem-solving skills. A Level Maths involves learning how to identify problems, break them down into smaller parts, and come up with solutions. This type of analytical thinking can be applied to many different areas of life, helping you develop valuable skills that they can use in the future.
2. Maths helps you understand the world around us. A Level Maths teaches you how to make sense of the world by using mathematical models and principles. This can help you understand the complexities of the world and think critically about it.
3. Maths can help you get into university. Many universities look for A Level Maths qualifications when considering an application. Having this qualification can give you an advantage over other applicants and can help you get a place at a good university.
4. Maths can help you stay ahead in the job market. Employers often look for people with an understanding of Maths. Having an A Level qualification in Maths can help you stand out from other applicants and make you more attractive to potential employers.
5. Maths is fun and rewarding. A Level Maths can be an enjoyable and rewarding experience. It can give you a sense of accomplishment and can help you to think about the world in new and creative ways.

Overall, A Level Maths is a great subject to study. It can help you develop valuable problem-solving skills, understand the world around us, get into university, stay ahead in the job market, and be a fun and rewarding experience.

A Level Maths involves learning how to identify problems, break them down into smaller parts, and come up with solutions. This type of analytical thinking can be applied to many different areas of life, helping you develop valuable skills that you can use in the future. An analytical skillset is developed through studying A-level Maths. A-level Maths can help you develop evaluation methods which will stand you in good stead for many careers. With the continued growth of AI technology, it is important to have a good understanding of Mathematical skills and be aware of when and where to implement it.

### **Why study this subject at Aston?**

- 100% pass rate (2024)
- Teaching by specialist Mathematics teachers, who already know you and how you learn.
- Smaller class sizes than college allowing for more personal support
- Caring staff who really want you to do well

### **Assessment**

The Pearson Edexcel Level 3 Advanced GCE in Mathematics consists of three externally examined papers. Your grade will be based on three 2- hour exams in summer of Year 13.

**Paper 1 and Paper 2** may contain questions on any topics from the Pure Mathematics content.

**Paper 3** will contain questions on topics from the Statistics content in Section A and Mechanics content in Section B.

Students must answer all questions. Calculators can be used in the assessment.

### **Links particularly well with these subjects**

Biology, Chemistry, Physics, Geography, Psychology

### **Entry requirements**

Grade 6 or above in Mathematics.

### **Useful for careers in....**

Mathematics is especially helpful for the following careers: **Finance and Accounting, Engineering and Energy Acoustics, Computing, Data Scientist, Medicine and Market Researcher**

