

# EDExcel MATHS A-Level



## Subject Overview

These qualifications are linear. This means that students will sit all the AS exams at the end of their AS course and all the A-level exams at the end of their A-level course. There is a Further Maths options for higher ability students. The topics are divided into 3 exam papers in A level exam and 2 for AS level exam. A level Further Maths has 4 exams

Sections: A level: Paper 1-2 (Pure Maths) and Paper 3 (Statistic and Mechanics)

AS level: Paper 1 (Pure Maths), Paper 2 (Statistics and Mechanics)

A level Further Maths: Core 1, Core 2, Optional 2 sections (Further statistic, Further Mechanics, Further Pure Maths1-2, Further Decision).

## Subject Information – Assessment - AS

Component /Unit/Exam paper	Weighting	Title	Details
Paper 1	62.5% of AS 100 marks	Topic 1 – Algebra <ul style="list-style-type: none"> <li>● Topic 2 – Quadratic</li> <li>● Topic 3 – Coordinate geometry in the (x, y) plane</li> <li>● Topic 4 – Circles</li> <li>● Topic 5 – Trigonometry</li> <li>● Topic 6 – Exponentials and logarithms</li> <li>● Topic 7 – Differentiation</li> <li>● Topic 8 – Integration</li> <li>● Topic 9 – Binomials</li> <li>● Topic 10 – Vectors</li> </ul>	Written exam of 2 hours 100 marks of short and long answer questions split by topic. <ul style="list-style-type: none"> <li>● Paper 1 and Paper 2 may contain questions on any topics from the Pure Mathematics content.</li> <li>● Students must answer all questions.</li> <li>● Calculators can be used in the assessment.</li> </ul>
Paper 2	37.5% of AS 60 marks	Section A: Statistics <ul style="list-style-type: none"> <li>● Topic 1 – Data collection</li> <li>● Topic 2 – Data presentation and interpretation</li> <li>● Topic 3 – Measures of location and spread</li> <li>● Topic 4 – Statistical distributions</li> <li>● Topic 5 – Statistical hypothesis testing</li> </ul> Section B: Mechanics <ul style="list-style-type: none"> <li>● Topic 6 – Modelling in mechanics</li> <li>● Topic 7 – Constant acceleration</li> <li>● Topic 8 – Forces and motion</li> <li>● Topic 9 – Variable acceleration</li> </ul>	Written exam of 1 hour and 15 mins 60 marks of short and long answer questions split by topic. <ul style="list-style-type: none"> <li>● Paper 1 and Paper 2 may contain questions on any topics from the Pure Mathematics content.</li> <li>● Students must answer all questions.</li> <li>● Calculators can be used in the assessment.</li> </ul>

### **Subject Information – Assessment - A Level (Section 1-5 and 6.1- Periodic Motion)**

<b>Component /Unit/Exam paper</b>	<b>Weighting</b>	<b>Title</b>	<b>Details</b>
Paper 1 and Paper 2	Paper 1: 33.33% of the qualification 100 marks Paper 2: 33.3% of A-Level 100 marks	Content overview <ul style="list-style-type: none"> <li>● Topic 1 – Proof</li> <li>● Topic 2 – Algebra and functions</li> <li>● Topic 3 – Coordinate geometry in the (x, y) plane</li> <li>● Topic 4 – Sequences and series</li> <li>● Topic 5 – Trigonometry</li> <li>● Topic 6 – Exponentials and logarithms</li> <li>● Topic 7 – Differentiation</li> <li>● Topic 8 – Integration</li> <li>● Topic 9 – Numerical methods</li> <li>● Topic 10 – Vectors</li> </ul>	<b>Externally Assessed</b> <ul style="list-style-type: none"> <li>● Written exam of 2 hours</li> </ul> 100 marks of short and long answer questions split by topic. <ul style="list-style-type: none"> <li>● Paper 1 and Paper 2 may contain questions on any topics from the Pure Mathematics content.</li> <li>● Students must answer all questions.</li> <li>● Calculators can be used in the assessment.</li> </ul>

<b>Component /Unit/Exam paper</b>	<b>Weighting</b>	<b>Title</b>	<b>Details</b>
Paper 3 <b>Statistics and Mechanics</b> (*Paper code: 9MA0/03)	33.3% of A-Level 100 marks	Content overview Section A: Statistics <ul style="list-style-type: none"> <li>● Topic 1 – Statistical sampling</li> <li>● Topic 2 – Data presentation and interpretation</li> <li>● Topic 3 – Probability</li> <li>● Topic 4 – Statistical distributions</li> <li>● Topic 5 – Statistical hypothesis testing</li> </ul> Section B: Mechanics <ul style="list-style-type: none"> <li>● Topic 6 – Quantities and units in mechanics</li> <li>● Topic 7 – Kinematics</li> <li>● Topic 8 – Forces and Newton’s laws</li> <li>● Topic 9 – Moments</li> </ul>	<b>Externally Assessed</b> Written exam of 2 hours Paper 3 will contain questions on topics from the Statistics content in Section A and Mechanics content in Section B. <ul style="list-style-type: none"> <li>● Students must answer all questions.</li> <li>● Calculators can be used in the assessment.</li> </ul>

## What opportunities this course could lead to:

**Supporting Other Subjects:** The mathematical skills you learn in A level Mathematics are of great benefit in other A level subjects such as physics, chemistry, biology, computing, geography, psychology, economics and business studies. Studying A level Further Mathematics is likely to improve your grade in A level Mathematics. The extra time, additional practice, further consolidation and development of techniques contribute to improved results in A level Mathematics

**Specific job roles** include actuary, business analyst, software engineer, technology analyst, information engineer, speech technology researcher, and **maths** teacher. **Jobs** in the mathematical sciences - that is, **careers** that studying **maths** at university prepares you for directly - tend to be **very well paid**.

**Careers for men and women** with good mathematics skills and qualifications are not only well paid, but they are also often interesting and rewarding. People who have studied mathematics are in the fortunate position of having an excellent choice of career. Whilst the number of young people studying A level Mathematics and Further Mathematics is increasing there is still a huge demand from science, engineering and manufacturing employers.

Maths and Further Maths A-level has been named as a "**request subject**" by the **Russell Group** of universities, which means it can be useful for getting onto a wide range of university courses.

**Employability Skills:** The reason why so many employers highly value mathematics qualifications is mathematics students become better at **thinking logically and analytically**. Through solving problems you develop resilience and are able to think creatively and strategically. The writing of structured solutions, proof and justification of results help you to formulate reasoned arguments. And importantly you will have excellent numeracy skills and the ability to process and interpret data.

**Maths is also part of the gang of four** – which includes Physics, chemistry and biology – that you usually need to pick at least two from at A-level to do a range of science degrees, including medicine and engineering. Maths is especially highly recommended for the finance, engineering.

Maths A-level is usually **required for degree courses in:** engineering (general, aeronautical, civil, electrical, mechanical, sometimes chemical).

A level Mathematics **is an interesting and challenging course** which extends the methods you learned at GCSE and includes optional applications of mathematics, such as Statistics, Mechanics and Decision Mathematics.

**Statistics** – Collecting and analysing data and using this to make predictions about future events. Many subjects make use of statistical information and techniques. An understanding of probability and risk is important in careers like insurance, medicine, engineering and the sciences.

**Mechanics** – Modelling and analysing the physical world around us, including the study of forces and motion. Mechanics is particularly useful to students studying physics and engineering.

**Decision** –Using algorithms and other methods to find efficient solutions to real life problems, such as finding the shortest route around a network. The techniques are important in business, logistics and computer science.

Few of our students went off to study Dentistry, Biomedical Sciences, Pharmaceuticals and Medicine and Engineering.

**Useful websites:**

<https://www.physicsandmathstutor.com/>

<https://www.youtube.com/channel/UC58b34-W7M-bLEARri1912g>

<https://www.mathsgenie.co.uk/alevel.html>

<https://corbettmaths.com/>

<https://crashmaths.com/a-level-practice-papers-edexcel/>

<https://hegartymaths.com/>

<https://www.s-cool.co.uk/a-level/maths>

[http://www.schoolworkout.co.uk/a\\_level.htm](http://www.schoolworkout.co.uk/a_level.htm)