

MATHS

WHERE CAN IT TAKE YOU?

Banking

Careers in banking can lead to a variety of roles such as Investment Analyst, Trader, Sales, Client Adviser, Risk Manager, Operations Analyst or Compliance Officer. A Relevant degree for banking positions could include business, economics, finance, management or marketing. A good choice of A-Levels for these degrees alongside Mathematics could include Economics, Business Studies, Accounting and Further Maths.

Engineer

Engineering graduates have a very broad range of career options, including different kinds of engineering roles, jobs in related areas such as supply chain and jobs in other industries such as finance and IT. If you want to take a degree in engineering you need an A Level in maths. In many cases you also need physics. Some chemical engineering degrees ask for maths and chemistry instead, and some ask for all three.

Programmer

The majority of careers within this sector require a Bachelor's degree in computer science, computer engineering, mathematics or equivalent. A good choice of A Levels alongside mathematics for these degree courses may include computer science, electronics, information systems and physics.

Education

If you are thinking of going into teaching after your A Levels then a degree in a relevant field is desirable. After studying an undergraduate degree you would go onto study a PGCE to gain your teaching qualification.

Actuary

An actuary evaluates, manages and advises on financial risks. They use their knowledge of business and economics, together with their understanding of probability theory, statistics and investment theory, to provide strategic, commercial and financial advice. A degree course that would increase your chances of working in this field (i.e actuarial science, business or finance, economics, engineering, mathematics or statistics, risk management) would typically require a minimum Grade B in A Level Mathematics as well as good grades in two other A Levels.

FURTHER CAREER INFORMATION

These are just a small selection of the careers you could go on to pursue should you study A Level Maths. Many of these careers require a university degree and therefore we would recommend looking into the specific requirements for each university course by heading to their respective websites.

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WHAT TO EXPECT

What does the course involve?

A Level Mathematics builds on and extends GCSE knowledge and skills and introduces new ideas, such as calculus and its applications. It emphasises how mathematical ideas are interconnected and how these ideas can be applied to model situations mathematically.

There is a strong emphasis on logical reasoning and problem-solving and you will learn to use your mathematical skills and techniques to solve challenging problems.

Most of the course involves using algebra and it covers topics such as trigonometry, co-ordinate geometry, differentiation and integration (calculus), algebraic techniques and functions.

All students study statistics and mechanics. Statistics develops the skills required to interpret real data presented in summary or graphical form and helps us to draw conclusions about what the data shows. The statistics element of the course may be particularly helpful to students also studying geography, economics, biology or psychology.

Mechanics allows us to describe and make predictions about how physical objects move and interact with each other involving ideas such as velocity, acceleration, force and mass which are central to understanding how the world works.

The mechanics element of the course may be particularly helpful to those students studying physics or engineering.

Can I take additional qualifications?

If you choose to study Mathematics, you will usually take it alongside two other A levels. Mathematics is an excellent qualification that complements the full range of A levels, particularly the Sciences.

How will I be assessed?

End of Year One - 2 exam papers, assessed internally, as outlined below:

- Paper 1: Pure Mathematics - 2 hours (100 marks)
- Paper 2: Statistics - 1.25 hour (60 marks)

A Level - 3 exam papers as outlined below:

- Paper 1: Pure Mathematics 1 - 2 hours (100 marks)
- Paper 2: Pure Mathematics 2 - 2 hours (100 marks)
- Paper 3: Statistics and Mechanics - 2 hours (100 marks)

What are the costs?

You should have a calculator – the minimum specification is the Casio FX 991-EX Classwiz. You may like to consider a graphical calculator for A Level maths (particularly if you are looking at Maths, Physics or Engineering in the future), the college has a set of HP 39Gii for use in class. Please talk to a Maths teacher for more advice.

What is the duration?

A Level is a two year course.

Entry Requirements

Students will need a grade 7 at GCSE Mathematics.