# Further Mathematics

1. Subject

A Level Further Mathematics

1. Syllabus

Pearson Edexcel Level 3 Advanced GCE in Further Mathematics (9FM0)

1. What will I learn?

A level Further Mathematics is one of the most exciting A level subjects. It involves studying a core set of topics (some of which you are introduced to in the main A-level) namely Proof, Complex numbers, Matrices, Further algebra and functions, Further calculus, Further vectors, Polar coordinates, Hyperbolic functions, Differential equations but you will also be able to choose two options to explore. In the past few years options chosen have been

Further Pure Mathematics 1

Further Statistics 1

Further Mechanics 1

Decision Mathematics 1

You must study A-level mathematics as well as Further Mathematics.

1. How will I be assessed?

The Pearson Edexcel Level 3 Advanced GCE in Further Mathematics consists of four externally examined papers.

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| --- | --- |
| **Paper 1** | Core Mathematics 1 |
| **Paper 2** | Core Mathematics 2 |
| **Paper 3** | Option 1 |
| **Paper 4** | Option 2 |

Students must complete all assessments in May/June in any single year.

Each paper is:

- 1.5 hour written examination

- 75 marks

- 25% of the qualification

1. How will this prepare me for my next steps?

A level Further Mathematics supports the study of a wide range of other AS/A level subjects. Computer Science, Physics, Chemistry and Biology rely on good logic, algebraic and graphical skills, statistical techniques and the use of a range of functions including logarithms and trigonometry.

In addition, Economics, Psychology, Business, Computing and Geography all benefit from students having fluent and confident numerical, algebraic, graphical and statistical skills. Many students take AS/A level Mathematics in conjunction with non-related subjects in order to maintain a broad range of subject choices until they make decisions about their future study and career plans

Mathematics is a qualification that is highly valued by employers and universities and is one of the most popular subjects for both boys and girls. The vast range of degree courses and careers that require solid mathematical skills ensures that taking maths to A Level or beyond will open doors to a world of opportunities!

1. Contribution to UTC/Studio aims

Maths Is Key in an Ever-Advancing World

As technology continues to advance, so too does mathematics, increasing its essential role in both every day and corporate life. New mathematical theories are being discovered and developed every day, enabling inventions and scientific discoveries to continue to flourish. By studying Further Maths at A-Level, you will have the opportunity to forge a career that’s at the forefront of technological and scientific advancement.

1. Careers/job ideas

Studying maths helps you develop skills in logical thinking, problem-solving and decision making, which are valued by employers across many job sectors in the modern world of work. Young people with STEM qualifications are in demand, with 72% of all UK businesses relying on people with STEM skills and 58% of all new jobs created being related to STEM.

Jobs directly related to maths include:

* [Actuarial analyst](https://www.prospects.ac.uk/job-profiles/actuarial-analyst)
* [Actuary](https://www.prospects.ac.uk/job-profiles/actuary)
* [Chartered accountant](https://www.prospects.ac.uk/job-profiles/chartered-accountant)
* [Chartered certified accountant](https://www.prospects.ac.uk/job-profiles/chartered-certified-accountant)
* [Data analyst](https://www.prospects.ac.uk/job-profiles/data-analyst)
* [Investment analyst](https://www.prospects.ac.uk/job-profiles/investment-analyst)
* [Research scientist (maths)](https://www.prospects.ac.uk/job-profiles/research-scientist-maths)
* [Secondary school teacher](https://www.prospects.ac.uk/job-profiles/secondary-school-teacher)
* [Statistician](https://www.prospects.ac.uk/job-profiles/statistician)
* [Systems developer](https://www.prospects.ac.uk/job-profiles/systems-developer)

Jobs where maths would be useful include:

* [Financial manager](https://www.prospects.ac.uk/job-profiles/financial-manager)
* [Financial trader](https://www.prospects.ac.uk/job-profiles/financial-trader)
* [Insurance underwriter](https://www.prospects.ac.uk/job-profiles/insurance-underwriter)
* [Meteorologist](https://www.prospects.ac.uk/job-profiles/meteorologist)
* [Operational researcher](https://www.prospects.ac.uk/job-profiles/operational-researcher)
* [Quantity surveyor](https://www.prospects.ac.uk/job-profiles/quantity-surveyor)
* [Software tester](https://www.prospects.ac.uk/job-profiles/software-tester)