

## AQA AS & A Level Further Mathematics

### Course Overview

Further Mathematics is an extra A Level on top of the ordinary A Level Mathematics and is aimed at those students who really enjoy and excel at mathematics.. It is very useful for anyone thinking of studying mathematics at university.

### Course Content

**Year 12:** You will study Pure Maths and two options from Mechanics, Statistics or Discrete Mathematics:

- **Pure Maths:** complex numbers, matrices, polar coordinates, hyperbolic functions, further algebra and functions, further vectors, further calculus
- **Mechanics:** dimensional analysis, momentum and collisions, work energy and power, circular motion.
- **Statistics:** discrete random variables, Poisson distribution, Type I and II errors and power of a test, continuous random variables.
- **Discrete:** graphs, networks, flow, linear programming, critical path analysis, game theory, group theory.

**Year 13:** You will study Pure Maths and two options from Mechanics, Statistics or Discrete Mathematics:

- **Pure Maths:** extends all the work in Year 12 and includes differential equations, trigonometry, numerical methods and coordinate geometry
- **Mechanics:** extends all the work in Year 12.
- **Statistics:** extends all the work in Year 12 and includes the exponential distribution and inference.
- **Discrete:** extends all the work in Year 12.

### Assessment

AS Level is awarded based on your performance in two equally weighted papers usually taken at the end of year 12.  
Paper 1: 100% pure maths. Paper 2: two equal sections from the three options of mechanics, statistics or discrete maths.

A Level is awarded based on your performance in three equally weighted papers usually taken at the end of year 13.  
Paper 1: 100% pure maths. Paper 2: 100% pure maths. Paper 3: two equal sections from the three options of mechanics, statistics or discrete maths.

### Entry Requirements

A grade 7 or higher in GCSE Mathematics. To progress to Y13, you need at least a grade C in AS Further Mathematics.

### Course Contact

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