COLFE'S SCHOOL

MATHEMATICS & FURTHER MATHEMATICS

Results

For the last three years Colfe's School Mathematics department has ensured 2/3 of the cohort attain a grade A* or grade A. In 2019 we celebrated record results with 32% of students achieving an A*. Furthermore, 67% of Further Mathematics students achieved a grade A*. Indeed, the results of the last three years place the department in the top 18% of all independent schools for value added, with last years' results placing us in the top 13%.

Assessment structure

Mathematics is a composite subject made up of a combination of Pure Maths, Mechanics and Statistics. There are two possible qualifications, both examined linearly:

• A level Mathematics – two papers (each 2 hours duration) of Pure Maths plus one paper (2 hours duration) consisting of two sections; 50% Mechanics & 50% Statistics.

• A level Further Mathematics – two papers (each 1.5 hours duration) of Further Pure Maths, one Further Mechanics paper (1.5 hours) plus one Further Statistics paper (1.5 hours).

What is the difference between the units?

Pure Maths is composed of algebra, trigonometry, calculus, vectors, coordinate geometry and numerical methods. These topics are core to the entire course and many of the techniques will also prevail in the Applied Maths sections (Statistics & Mechanics).

Mechanics introduces the ideas of basic motion, force and energy and applies these ideas to dynamic or static situations. Describing the motion of a car travelling on an inclined plane is a problem in dynamics and calculating the forces exerted on a ladder against a wall is a problem in statics. Mechanics is helpful for students taking Physics or for anyone interested in Engineering or any subject related to the physical sciences. Statistics develops elementary ideas of probability and data analysis methods. If you are taking Biology, Geography, Business Studies or Economics, you will find Statistics useful.

A level Mathematics and beyond

A level Mathematics can be studied with a range of A level subjects but you should bear in mind that it is a prerequisite subject for university courses in Mathematics, Physics and in almost all Engineering, Architecture, Computer Science and Operational Research Degrees. A number of university courses in Management Science and Economics require or prefer candidates to have an A level in Maths.

Further Maths is taken by very able and dedicated Mathematicians. It is clearly advantageous for those wanting to read Mathematics, Physics or Engineering at Oxford, Cambridge, Imperial College London and other very competitive entry universities such as Warwick and Bath.

Students studying Further Mathematics will complete A Level Mathematics in Year 12.

Entrance requirements

To study A level Maths you need to be studying GCSE Higher level (or the equivalent) and you will need to obtain a grade 8.

To study A level Further Maths you must obtain a grade 9 in GCSE or IGCSE Mathematics, and it will be very beneficial if you have a high grade in GCSE Further or Additional Maths.

If you have met the above requirements, you will still need to sit a short induction test, which will examine material (mainly GCSE algebra) given to prospective students towards the end of the academic year.

Mathematics and Further Mathematics are *extremely demanding* subjects and you must be *fully committed and ready to make sacrifices in order to succeed.*