

AS and A Level Further Maths

Intent

We offer A Level Further mathematics to students who have a drive for mathematics and have the ability to take maths beyond 6th form. It is taught as a parallel subject to A level maths with the expectation that students taking Further maths would do exceptionally well in A level maths.

In addition to a full A level qualification, the intent is to prepare students for the challenges which they are going to face in life beyond 6th form. This course could prove invaluable to any student wishing to study mathematics or a mathematics related subjects at top Universities. We prepare our students for university entrance exams like STEP, MAT and CIUMT etc. We also prepare them for national Maths challenges such as the UKMT. As well as individual competitions, students take part in group completions at UCL.

Implementation

The course structure is similar to A level maths. However, students study a new set of algebra topics including complex numbers and matrices in both year 12 & 13. They also study new topics in statistics such as Poisson, geometric and negative binomial distributions and learn how to use graphical calculator to deepen their understanding of the concepts. In Core pure, they learn how to use calculator to sketch Polar graphs and Hyperbolic functions. Students study Decision maths 1, a standalone module, in both years, which helps them improve their computer programming skills. Some students are given a choice to complete an additional mechanics module to go with their Physics A level. To accommodate this, we facilitate additional teaching during out of normal learning hours, after school or during half term holidays.

Impact

The quantifiable impact of the Further maths A Level is significant. The table below shows performance of our Further maths students in recent years:

Heading	Academic year 2017 - 2018	Academic year 2018 - 2019	Academic year 2019 - 2020	Academic year 2020 - 2021	Academic year 2020 - 2021
Number of students	5	3	5	5	15 (Year 12)
Average GCSE Score	6.36	7.32	7.18	6.5	7.22
ALPS Grade	8	4	6		
ALPS Score	0.61	1.04	0.93		
A* - B (%)	40	100	80		
A* - C (%)	40	100	80		
A* - E (%)	60	100	100		

As the table shows, we started with a small number of students in A level Further maths but this year we had 15 students in year 12. The retention rate from AS to A level is very high. About three quarters of our students progressed from AS to A level this academic year. The recruitment in the subject continues to improve year on year.