A-Level Further Mathematics

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Course Outline:

Further Mathematics must be studied in combination with A-Level Mathematics the details of which are available separately.

We teach using the Edexcel specifications.

The link to the Further Mathematics specifications for the exam board is below

Edexcel:
http://qualifications.pearson.com/content/dam/pdf/A%20Level/Mathematics/2017/specification-and-sample-assesment/a-level-l3-further-mathematics-specification.pdf

The course requires the pupils to have a firm knowledge of Higher GCSE material as this forms the foundations and basics of the A level course.

Summer homework is set and the pupils are tested very near to the start of year 12 so that weaknesses can be addressed.

The **compulsory Core course** includes:
Proof, Complex numbers, Matrices, Further algebra and functions, Further calculus, Further vectors, Polar coordinates, Hyperbolic functions, Differential equations.

The **Further Pure 1 course** includes:
Further trigonometry, Further calculus, Further differential equations, Coordinate systems, Further vectors, Further numerical methods, Inequalities

The **Decision 1 course** includes:
Algorithms and graph theory, Algorithms on graphs, Critical path analysis, Linear programming.

Assessment Framework:

In the current specifications, pupils will sit 4 exams at the end of year 13. These exams are _in addition_ to the ones they must complete for the Mathematics course. Each exam will be 1.5 hours long and will be worth a quarter of the course.

Therefore Further Mathematicians will sit 7 examinations at the end of the 2 year course and will gain 2 A levels.

The content that will be assessed in each exam is from the Core Pure and Decision branches of mathematics. The papers contain a mix of question styles from short, single-mark questions to multi step-problems.

2 Core Pure courses are compulsory. We then can choose 2 courses. We have chosen to study Decision 1 and Further Pure 1.

Course Entry Requirements:

Mathematics grade 8

Why Study A-Level Further Mathematics?

Further Mathematics combines well with Chemistry and Physics and also with an Economics/Humanities programme. Career opportunities as similar to those for Mathematics but potential under-graduate Maths students should seriously consider the Maths/Further Maths combination if they intend applying to a more selective university.