FURTHER MATHEMATICS

Exam Board: EDEXCEL

Aims of the Course

- Develop their understanding of Mathematics and mathematical processes in a way that promotes confidence and fosters enjoyment.
- Extend their range of mathematical skills and techniques and use them in more difficult unstructured problems.
- Recognise how a situation may be represented mathematically and understand the relationship between 'real world' problems and standard and other mathematical models and how these can be refined and improved.
- Read and comprehend mathematical arguments and articles concerning applications of mathematics.
- Develop an awareness of the relevance of mathematics to other fields of study, to the world of work and to society in general.

Types of Learning Experience:
The course content is delivered through lectures, class-room discussion, practical activities, use of IT and personal research.

Link Subjects:
Mathematics may be taken with any other subjects, and it is particularly valuable to Economics, Business studies, Physics and Chemistry. Further Mathematics must be taken with A Level Mathematics.

Progressing to Higher Education:
The problem solving skills and ability to tackle tasks logically gained from Maths, make Mathematics relevant to many subjects at Higher Education and university. Mathematics is a highly recognised Advanced level subject for entry to University and Higher Education and it is a useful stepping stone to Engineering, Sciences, Computing and Business related subjects.

Careers:
Mathematics is especially relevant to those wishing to pursue careers in Finance, Business, Research, Engineering, Education, Accountancy and IT.
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***Entry requirements*:**

A minimum of 5 grades 9-4 at GCSE including English and Maths. You must have a GCSE grade 7 or above in Maths - grade 8 or 9 is preferred.

Unit 1 Applied Maths—Two of the following

Decision Mathematics 1
- Algorithms
- Graph Theory
- Networks
- Linear Programming

Decision Mathematics 2
- Game theory
- Flows in a network
- Matching and allocation problems
- Critical path analysis
- Dynamic programming

Further Probability and Statistics
- Continuous random variables
- The normal and Normal distribution
- Sampling and hypothesis testing

Assessment
1hr 30min written paper for each module (all questions compulsory)

Unit 2

Core Pure Mathematics 1 and 2
- Summation of series
- Mathematical induction
- Roots of polynomial equations
- Complex numbers
- Matrices

Assessment:
Two 1hr 30min written assessment (all questions should be attempted).
Calculators allowed – Graphics calculator recommended.