FURTHER MATHS

ROYAL
HOSPITAL
SCHOOL

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FURTHER MATHS
IN THE SIXTH FORM

In addition to mathematics the strongest pupils can study **FURTHER MATHEMATICS**.

This is a very demanding course and should only be attempted by pupils who have some natural ability for mathematics and have achieved at least a Grade 8 at GCSE.

The nature of the material means that the study of further mathematics cannot begin until the fundamental work has been covered in the A Level Mathematics course. Consequently the additional timetable periods in Year 12 enable pupils following the further mathematics course to complete the A Level Mathematics course in one year and then study the harder additional units of this course in Year 13.

Pupils who may be thinking of continuing their study of mathematics beyond the Sixth Form should be aware that further mathematics to at least AS Level is now a pre-requisite for entry into many university mathematics courses.
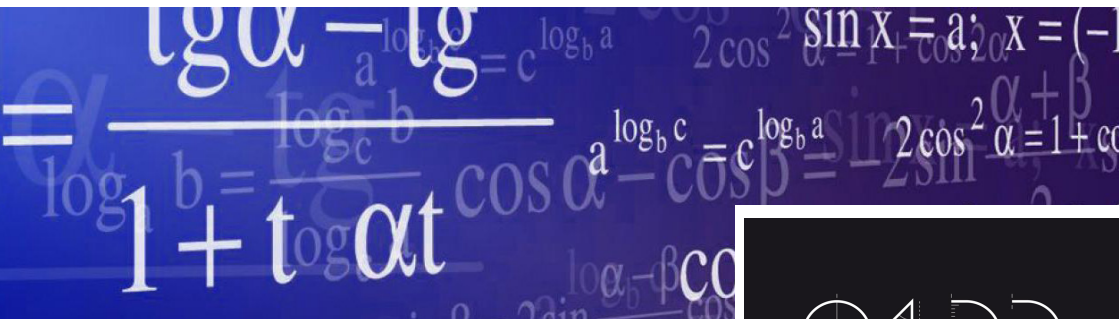
ESSENTIAL INFORMATION

· Pupils must be taking mathematics in order to take further mathematics, which is a full A Level, not 'just a bit more mathematics!'
· All pupils are prepared for the GCE examinations set by Edexcel.
· Pupils electing to study further mathematics will have a total of 20 periods across a two week cycle.
· In Year 12 pupils complete the 'normal' A Level Mathematics course; details are included in the A Level Maths booklet.
· In Year 13 pupils complete the Further Mathematics A Level content.
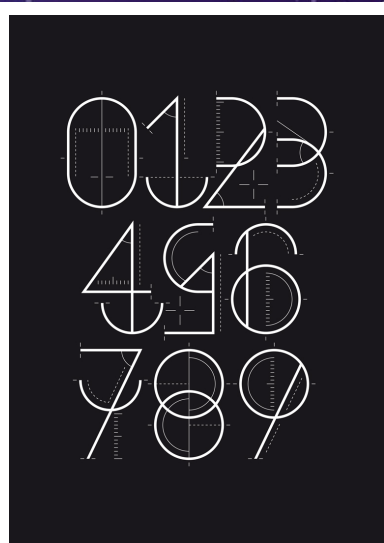
WHAT WILL YOU STUDY?

There are 4 areas covered, all examined using 1.5 hour papers each worth 75 marks and 25% of the qualification.

PAPER 1: CORE PURE MATHEMATICS

· Series
· Proof
· Complex numbers
· Matrices
· Further algebra and functions
· Further calculus
· Further vectors

PAPER 2: CORE PURE MATHEMATICS 2

· Complex numbers
· Further algebra and functions
· Calculus
· Polar coordinates
· Hyperbolic functions
· Differential equations

PAPER 3: FURTHER STATISTICS 1*

· Discrete probability distributions
· Poisson and binomial distribution
· Geometric and negative binomial distributions
· Hypothesis testing
· The central limit theorem
· Chi squared tests
· Probability generating functions
· Quality of statistical tests

PAPER 4: FURTHER MECHANICS 1*

· Momentum and impulse
· Collisions
· Work, energy and power
· Elastic strings and springs

*These are two possible modules that can be taken from 8 different options: Further Pure 1, Further Pure 2, Further Stats 1, Further Stats 2, Further Mech 1, Further Mech 2, Decision Maths 1, Decision Maths 2.

CAREERS

Maths can lead to a variety of rewarding careers:

UNDERWRITER
ARMY OFFICER PROGRAMMER
INSURANCE BROKER **TEACHER** ACTUARY
HR TECHNICAL SUPPORT
AERONAUTICAL ENGINEER
GEOPHYSICIST PHYSICIST
CONSULTANT STATISTICIAN
CHARTERED ACCOUNTANT
SOLICITOR **STOCK TRADER**
CONSULTANT **FINANCIAL RISK ANALYST**
PR
RESEARCHER
WEB DESIGNER
METEOROLOGIST LECTURER

For more information or if you have any questions please
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