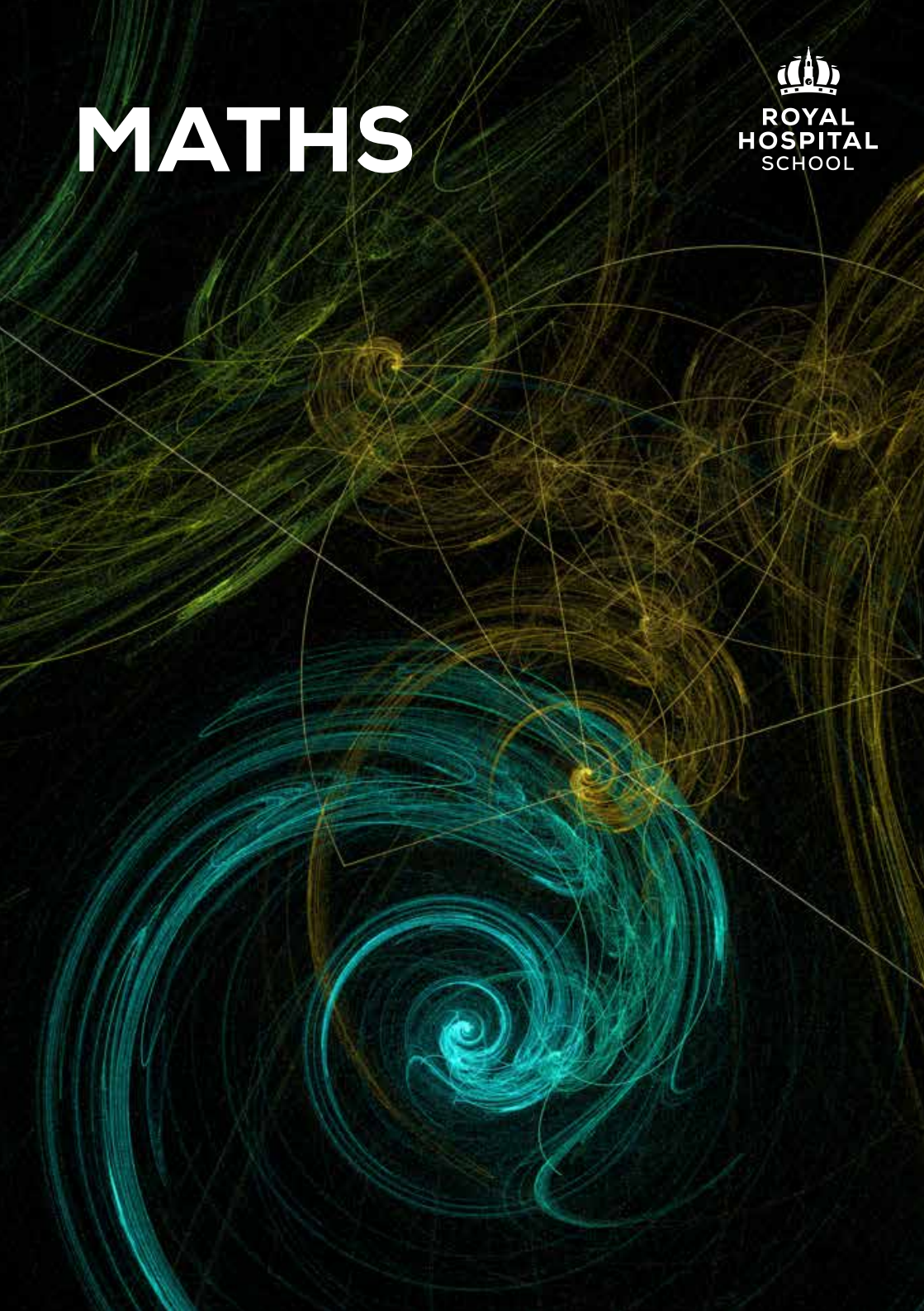


# MATHS



ROYAL  
HOSPITAL  
SCHOOL



## MATHS IN THE SIXTH FORM

Mathematics is a difficult subject at A Level unless you have some genuine interest in the subject. The nature of the subject alters in a more fundamental way than most other subjects after GCSE and there is a strong correlation between the results obtained by pupils at GCSE and A Level. Consequently if you do not achieve a pass in GCSE Higher Tier Mathematics at Grade 7, 8 or 9 it would not be advisable to study mathematics at A Level unless there are good reasons for believing that your GCSE result does not give a true picture of your ability and potential.

## ESSENTIAL INFORMATION

- All pupils are prepared for the GCE examinations set by Edexcel.
- The course is split into two parts - Pure Mathematics and Applications (incorporating Statistics and Mechanics).
- There will be three examinations, all taken at the end of Year 13: Pure 1, Pure 2 and Mechanics & Statistics.
- Each exam will be 2 hours in length and worth 100 marks; the Mechanics and Statistics paper is split between the 2 disciplines, 50 marks for each, but still 2 hours in length.

## WHAT WILL YOU STUDY?

The areas studied during the two year course are as follows:

### PURE 1

- Algebra and functions
- Coordinate geometry in the  $(x,y)$  plane
- Trigonometry
- Vectors in 2D
- Exponentials and logarithms
- Differentiation
- Integration

### PURE 2

- Proof
- Algebra, partial fractions and functions
- Sequences and series
- Parametric equations
- Trigonometry
- Vectors in 3D
- Differentiation
- Integration
- Numerical methods

### MECHANICS AND STATISTICS

#### Section A: Statistics

- Statistical sampling
- Data presentation and interpretation
- Probability
- The normal distribution
- Regression and correlation
- Statistical distributions
- Statistical hypothesis testing

#### Section B: Mechanics

- Quantities and units in mechanics
- Kinematics
- Forces and Newton's laws
- Moments
- The motion of projectiles



**PURE MATHS  
IS, IN ITS WAY,  
THE POETRY OF  
LOGIC**

*- Albert Einstein*



# CAREERS

Maths can lead to a variety of careers:

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

For more information or if you have any questions please  
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