



# Mathematics

## Why study Mathematics?

A Level Mathematics provides you with transferable skills for the real world, logical skills, analytical skills and problem solving. There is the opportunity to study Mechanics, which looks at the Mathematics of the real world by studying forces and equations of motion, and Statistics.

Mathematics A Level is well-respected by employers and admissions tutors for all degree subjects. People who have studied Mathematics are in a fortunate position because they will have a wide choice of career opportunities.

## Course Outline

In the first year, students will study:

- Proof, Algebra and functions, Coordinate geometry in the (x,y) plane, Sequences and series and Trigonometry as well as new topics of Differentiation and Integration, Exponentials and logarithms.
- Statistical sampling, Data presentation and interpretation, Probability and Statistical distributions
- Quantities and units in mechanics, Kinematics, Forces and Newton's laws

In the second year, students will study:

- Differentiation, Integration, Functions, Trigonometry, Vectors and Numerical methods
- Statistical hypothesis testing and Moments

## Assessment

You will sit three, 2 hour, written examination papers (each worth  $\frac{1}{3}$  the final A Level grade), all of which are taken at the end of the A Level course. Paper 1 is Pure Maths, Paper 2 is Pure Maths and Mechanics, Paper 3 is Pure Maths and Statistics. The papers use a variety of assessment methods including short and long answer questions. Calculators are allowed for all papers.

## Head of Learning

Mrs S Mann

## Departmental Staff

Mrs S Babb  
Mrs L Burrill  
Mr W Capstick  
Mr A Carson  
Ms A Curry  
Mrs N Entwistle  
Mr A Ha  
Mr A Ibrahim  
Mrs McMahon  
Mr J Procter  
Mr R Wallace

## Exam Board

AQA A Level Mathematics

## Where are they now?

Recent students of Mathematics at CRGS have gone on to study:

- Accounting and Finance (Lancaster, Newcastle)
- Business Accounting and Finance (Newcastle)
- Business and Management (York)
- Chemical Engineering (Leeds, Sheffield)
- Civil Engineering (Liverpool)
- Computer Science (York)
- Computer Science and Mathematics (Lancaster)
- Economics (Newcastle)
- Mathematics (Newcastle)
- Mathematics and Actuarial Science (Leicester)
- Mechanical Engineering (Lancaster)
- Medicine (Manchester, Liverpool, Cambridge)
- Natural Sciences (Durham)



## Frequently Asked Questions

*Q. Is any previous knowledge required to study this subject?*

You should have Grade 6 or above in GCSE Mathematics.

Students are required to meet the General Entry Requirement of a minimum of 4 GCSEs at grade 6 with at least GCSE grade 4 in English Language.

*Q. How is the course structured?*

You will have two teachers, each teaching you for 2 hours a week. Both will teach the Pure Maths work, then one will teach the Statistics work and one will teach the Mechanics work.

## Exam Board Specification

AQA A Level Mathematics [www.aqa.org.uk](http://www.aqa.org.uk)

## Notes:

## CRGS Sixth Form Admissions

### Apply

[www.crgs.org.uk/  
sixth-form/admissions](http://www.crgs.org.uk/sixth-form/admissions)

### Contact us

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