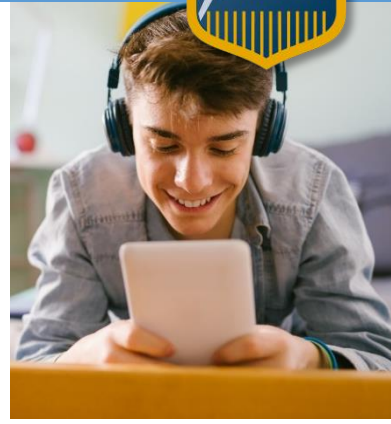


# Maths At Dene Magna Sixth Form



Maths is for everyone. It is diverse, engaging and essential in equipping students with the right skills to reach their future destination, whatever that may be. At Dene Magna Sixth Form, we offer three different Maths qualifications to match your needs, whether you are looking to prepare yourself to enter work, move on to an apprenticeship or apply to university. Our qualifications are certified through the national exam boards, which offers a comprehensive and packed learning curriculum. All of our courses are assessed by exams at the end of either 1 or 2 years (depending on the course), and yes, serious revision will be essential when the time comes.



As one of our Maths candidates, you will receive regular teacher-led lessons in class, but as with all A level subjects, you'll need to put in significant personal study time to be successful. The extra time needed should not be underestimated, and is one of the reasons that future employers and universities value Maths qualifications so highly. We have a friendly small-group culture where everyone feels free to question and participate, and whether you use paper or an electronic device for taking notes, our experienced teachers use Google classroom and Google Drive to share class slides, worked examples and past papers. Whichever Maths course is right for you, you'll need to be willing to wrestle with challenging content, willing to seek out help when stuck, and willing to have a laugh with your classmates and teachers. You'll be well supported with study rooms never far away (with free WIFI) and our Lead KS5 Maths Teacher is based at our Sixth Form campus for much of the time.

## Which course is right for me?

### A Level Mathematics

Nationally, A level Maths is the most popular subject to study after GCSEs with over 25% of A Level students choosing this course as one of their subjects. This course gives a broad skill of advanced Mathematics and you'll gain a deep understanding of logic, analysis and Mathematical theory. This is a great choice if you need to keep options open and access a wide range of university courses in future.

### Further Mathematics

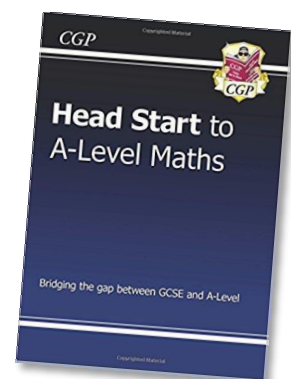
If you intend to go on to study advanced technical subjects at university, you may want to study Further Maths as well. If you have a passion for Maths and you plan to study advanced Engineering, Medicine, Law, Economics, Science or Maths itself, this could be for you. It's challenging but rewarding, and will act as superb preparation for Degree courses in Maths-rich subjects.

### Level 3 Mathematical Studies

If you plan to study three other A levels that need to be underpinned by Maths (the Sciences, Psychology, Economics etc.), this course (formerly called 'Core Maths') may well be a great choice for you. The course focuses less on theoretical Maths and more on applied topics like statistics, data analysis, graphing and business finance. This is a great option if you need problem solving and analytical skills to support your other courses, and whilst it's only worth half the UCAS points of a standard A level, it is studied for one year and assessed at the end of year 12, leaving year 13 to focus on exams in your other subjects.

## What should I do next?

First you need to apply. Don't wait until the last minute, get your application in. Thinking of your GCSEs, you need to work as hard as possible to secure the best GCSE Grades you can. Each of our courses builds upon GCSE knowledge, and the quantity of new material we need to cover doesn't allow for much GCSE recap time. Secondly, you will need to complete the summer preparation work that we will issue when you confirm your choice in August. This is essential for a good start, and yes we check that you've done it! We will also recommend self-study guides that will make sure you're ready when you join us in September.



# Comparing our Maths courses

## A Level Maths

Minimum GCSE Maths Grade 7



- 2 Year Course
- 9 hrs of teaching per fortnight and 8-9 hours of self-study expected per fortnight

### Core (split into 4 modules)

+ both

- Proof
- Algebra & Functions
- Coordinate Geometry
- Sequences & Series
- Trigonometry
- Exponentials & Logs
- Differentiation & Integration
- Numerical Methods

### Mechanics

- Vectors & Kinematics, Quantities & Units
- Forces & Newton's Laws, Moments

### Statistics

- Sampling & Probability, Data presentation & analysis
- Distributions, Hypothesis Testing

(3 exams x 120 mins)

## A Level Further Maths

Minimum GCSE Maths Grade 7 (preferably 8)



- 2 Year Course
- 9 hrs of teaching per fortnight and 8-9 hours of self-study expected per fortnight

### Core

+ two of:

- Proof
- Complex numbers
- Matrices
- Further algebra & Functions
- Further calculus
- Further vectors
- Polar coordinates
- Hyperbolic functions

### Mechanics

- Dimensional analysis, Momentum & collisions,
- Work & energy & power, Circular motion

### Statistics

- Discrete & continuous random variables, Poisson distribution
- Chi squared tests, Confidence intervals

### Networks

- Graphs, Networks, Linear programming, Critical paths
- Game theory, Binary operations

(3 exams x 120 mins)

## Level 3 Mathematical Studies

Minimum GCSE Maths Grade 5



- 1 Year Course (formerly called 'Core Maths')
- 3 hrs of teaching per fortnight and 3-4 hours of self-study expected per fortnight

### Core

+ one of:

- Analysis of data
- Personal Finance
- Estimation
- Critical analysis of data and models

### Statistical Techniques

- Normal distribution, Probabilities, Estimation, Correlation

### Critical path & risk analysis

- Critical paths, Expectation, Cost benefit analysis

### Graphical Techniques

- Graphical methods, Rates of change, Exponential functions

(2 exams x 90 mins) at the end of year 12

All course results are graded A-E and are assessed by exams at the end of the course

If you'd like to chat to one of our teachers about the right course for you, get in touch – we're very friendly!

Email us: [s.jones@denemagna.gloucs.sch.uk](mailto:s.jones@denemagna.gloucs.sch.uk)

