

# Course Title: GCSE Mathematics

Awarding Body: Edexcel

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## Why study Mathematics?

The GCSE Mathematics course is compulsory. Every student in the Upper School must follow the course. Mathematics is one of the best subjects to develop your analytical, research and problem-solving skills. Not only will studying Mathematics help give you the knowledge to tackle scientific, mechanical, coding and abstract problems, it will also help you develop logic to tackle everyday issues like planning projects, managing budgets, and even debating effectively.

## Course Outline

Mathematics at GCSE builds on the knowledge, skills and understanding developed in the Lower School. There are two tiers of entry, Foundation and Higher. The entry tier in Year 11 dictates the grades that are accessible; these are listed below:

<b>Foundation</b>	1	2	3	4	5				
<b>Higher</b>				4	5	6	7	8	9

All students follow a GCSE course; the tier of entry is not decided until after students have sat their mock examination in December of Year 11.

The course consists of five disciplines within Mathematics, each weighted with a different percentage:

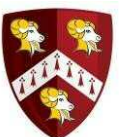
	<b>Higher</b>	<b>Foundation</b>
<b>Algebra</b>	30%	20%
<b>Number</b>	15%	25%
<b>Ratio, Proportion and Rates of Change</b>	20%	25%
<b>Geometry and Measure</b>	20%	15%
<b>Statistics and Probability</b>	15%	15%

Using and applying Mathematics is a strand which intertwines with all the five disciplines mentioned above.

More information and the full syllabus can be found at:

<https://qualifications.pearson.com/en/qualifications/edexcel-gcses/mathematics-2015.html>

All students must possess a scientific calculator regardless of the course they are following. This is expected to be brought in for every lesson. The Casio FX83GTPlus or Casio FX85GTPlus are recommended. These can be purchased from Student Services (currently £8.50)



## Assessment Format

### Edexcel (1-9) Mathematics 1MA1

Students all follow a linear course which is assessed by three terminal examinations at the end of Year 11; one non-calculator and two where a calculator is allowed. Each paper is one and a half hours long and worth  $33\frac{1}{3}\%$  of the overall qualification: the whole spectrum of topic areas within each tier is to be expected across all three papers.

**Higher tier** – this syllabus covers all topics which are grades 4 to 9.

**Foundation tier** – this syllabus covers all topics which are grades 1 to 5.

**Final tier** – The level of entry for each student is decided after the December mock examination in consultation with the student and carer/ parent.

### What skills will I need to be successful in this subject?

There is a strong emphasis on mathematical reasoning, problem solving and the fluent use of mathematical techniques. Students will need to demonstrate that they can reason and interpret mathematically, select and use the appropriate mathematical methods or skills in order to be able to solve problems in both mathematical and non-mathematical contexts. All of this requires perseverance.

### Possible Careers and Future Education

Mathematics is essential for life. It is used in all careers and many further education courses. It has no limitations and employers seek to employ people who have the GCSE Mathematics grade 4 or above.

People with a Mathematical degree and other qualifications can go into: Accounting; Medicine; Engineering; Forensic Pathology; Finance; Business; Consultancy; Teaching; IT; Games Development; Scientific Research; Programming; Civil Service; Design; Construction and Astrophysics, to name a few...

Year on year, A-Level Mathematics is a very popular choice for students.

Typically, 40+% of these students achieve grades A\* or A.

A spokesperson for the Institute of Mathematics and its Applications says:

"A Level Mathematics is tremendously important. It provides a firm foundation for all scientific, technical, engineering and mathematical careers and a flying start for many other types of career, such as those in Finance; Medicine; Agriculture ... etc. The list is endless! "

