

Mathematics (Edexcel)



Course Content

Whilst the A Level Mathematics course builds on the knowledge gained when studying GCSE, the emphasis is different. Algebra still has a central place, as this is the language in which the subject is expressed, but more importance than before is attached to being able to produce clearly reasoned arguments. You will build up a toolkit of mathematical methods, and you will learn how to become an effective problem-solver. You will make much greater use of technology to explore concepts, to exploit links between graphs and the underlying algebra, and to process data. There will be a greater focus on doing mathematics in the context of real-world problems.

In common with all A Level syllabuses, two thirds of the Edexcel specification is pure mathematics and the remainder applied.

Pure mathematics is the study of mathematical methods for their own sake, and you will gain a grounding in topics such as algebra, calculus (the study of gradients and areas under curves), numerical methods, trigonometry, vector geometry and differential equations. In applied mathematics, you put the techniques you have learnt to use in modelling real life situations: in mechanics you study forces and motion, and in statistics how to use mathematical rules to simplify complex probability calculations and how to analyse sets of data and draw reliable conclusions. The course is linear, leading to examinations at the end of U6.

Assessment

Assessment is by three equally weighted written components:

Paper 1: (2 hrs) Pure Mathematics 1

Paper 2: (2 hrs) Pure Mathematics 2

Paper 3: (2 hrs) Section A: Statistics

Section B: Mechanics

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Why study Mathematics?

Above all, we hope that you will choose to do mathematics in the sixth form because you enjoy it. Mathematics fits well with almost any other combination of subjects. It is a useful back up to the sciences, and adds breadth to arts subjects. Many of skills you need are surprisingly similar to those used in, for example, learning a language or analysing a philosophical argument. An A Level qualification in mathematics is highly regarded by universities and employers as it gives evidence that you are at home with numbers and are a logical thinker.

A Level Mathematics is an essential requirement not just for further study in mathematics but for most degree courses in physics and engineering, and for some economics, architecture and computing courses.

Is A Level Mathematics right for me?

As with all A Level subjects at The Grange, our entrance requirement is a minimum of Grade 7 in IGCSE or GCSE Mathematics. It goes without saying that we will do everything we can to help you to achieve the best A Level grade of which you are capable, but it is important to be aware that a student without a Grade 8 or above is likely to find the course very challenging. We would therefore strongly encourage you to do everything you can to achieve as high an IGCSE/GCSE mark as possible.

Your IGCSE/GCSE grade in itself is not a guarantee of A Level success, you also need to seek the advice of your current teacher; they are in the best position to judge whether continuing beyond GCSE is a sensible choice for you and to give you guidance on your likely A Level prospects.

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