

Maths & Further Maths



Mathematics and Further Maths

Exam board :EDEXCEL / PEARSONMaths Specification no. :9MA0Further Maths Specification no. :9FM0

A Level Maths

Pure Mathematics 1 33%, 2 hours

Pure Mathematics 2 33%, 2 hours

Statistics and Mechanics 33%, 2 hours

A Level Further Maths

Core Pure Mathematics 1 25%, 1 hour 30 mins

Core Pure Mathematics 2 25%, 1 hour 30 mins

Further Pure Mathematics1 25%, 1 hour 30 mins

Further Mechanics1 25%, 1 hour 30 mins

Pure Mathematics 67%, 2 hours

33%, 1 hour

AS Level Maths

Statistics and Mechanics

AS Level Further Maths

Core Pure Mathematics 1 50%, 1 hour 30 mins

One optional paper Core Pure Mathematics 2 Further Mechanics1

50%, 1 hour 30 mins

Course Delivery:

A level Mathematics is taught mainly by exposition by the teacher and solving problems in class, although students will be expected to contribute to class discussions of new topics. A significant part of the course will be in keeping up with the homework tasks, normally set after each lesson, consisting of exercises from the textbook. Much of the course involves problem-solving, and students will need to demonstrate perseverance in order to succeed.

Pure Mathematics: This consists of Algebra, Trigonometry, Coordinate Geometry, and Calculus. Some of the topics are an extension of the GCSE course, whilst much of it is new.

Applied Mathematics: This consists of 2 separate fields of mathematical study: Statistics and Mechanics. Statistics is concerned with the analysis of data, as well as the study of elementary Probability Theory. Mechanics is concerned with the study of forces and focuses on Dynamics (moving objects) and Statics (stationary objects).

Further Mathematics: This course extends and deepens the concepts taught at A Level Mathematics. Students are taught compulsory units in pure mathematics that involve complex numbers, matrices and further calculus methods. Students are also required to select 2 optional units which consist of pure and applied mathematical topics such as vectors, matric algebra, elastic collisions, hypothesis testing and algorithms.

Entry requirements:

Grade 7 in Maths is preferred in order to study Maths at A Level, but those who achieve a grade 6 will be offered the chance to sit our higher level GCSE skills test on our enrolment day just prior to the start of term in order to show that they have the skills needed to access the A Level course. Lots of revision resources to support this are available on our website. Further Maths students are normally expected to achieve an 8 or 9.

Frequently asked questions:

In this section we try to summarise those questions we always get asked at open evenings

Is Maths popular at Redcliffe?

Yes. We run 5 year 12 classes usually with 15-20+ students each in them and are often full at the start of year 12. Most students have to follow the subject through to the full A-level. So year 13 class sizes are similar.

Who will teach me?

You will be taught by 2 members of staff in year 12 and 2 members of staff in year 13. These staff members may vary between years.

How many lessons do I have a fortnight?

You will have 10 lessons a fortnight.

Is Maths a lot of work?

The short answer to this is, yes. Maths is a very demanding subject and requires a lot of organisation and focus. Being pro-active and resilient is essential to success.

When do I complete any independent study / homework?

We strongly suggest you use free periods as well as time at home. Those people who are disciplined at school always do better.

Do I need to be proficient in IT?

It helps if you have a working understanding of Excel because within statistics you will need to work with data in the large data set. However, we can support you through this.

Is there much revision support?

Yes. While you will be expected to be pro-active at shaping your own personal revision plan, we as a department have put a lot of work into supporting you. This includes topic tick lists, examples answers, links to videos and PowerPoints online. We also offer an after school twilight session for those who require more support to keep on top of their work, and organising their time. This will be compulsory for those who we identify as needing the support.

Do many people go on to study Maths at university?

Obviously, this varies from year to year but generally we get a lot of students who continue to pursue the subject or a related course such as Engineering at university and so we are well-placed to provide additional support and advice during any application process. Due to the perseverance and aptitude Maths students have to demonstrate to be successful we also have many students go onto to study subjects such as Philosophy and Law.

What is the past success at SMRT in Maths?

We are a highly successful course, every year we have students go onto study Maths or a relevant subject at Oxford or Cambridge, and offer help with the STEP maths entrance tests for this after school with a specialist teacher.

Our 2022 results were:

A* - C = 91% A* - B = 79%

What else is going on?

We run UK wide Maths Challenge competitions, which help to enrich and drive students.

Maths Studies:

Students who want to continue to study and develop their skills in Maths and achieve a grade 5 or 6 at GCSE should consider studying the Maths Studies AS Level qualification, which is taught over two years. It is particularly useful for those who need mathematical skills to support other courses of professions (see prospectus for more detail). Students who begin the A Level Maths course and struggle may also want to consider transferring to this course.

Skills & personal qualities required / developed by course :

Students will need to demonstrate considerable perseverance as this is a challenging course. However, there is a lot of help available from the teaching staff, so please don't be afraid to use us!

Visits / resources / opportunities:

All students will be issued with the relevant textbooks that cover the course thoroughly. Extra-curricular activities include: Several interschool competitions, maths masterclasses (run by Bristol University lecturers), lectures, as well as the usual maths challenge competitions. The VLE contains many resources including past papers, mark schemes & the formula book used in exams.

Recommended reading / websites:

The course texts are adequate, but Heinemann also produce aRevision Guide for each module.For more general introductions to mathematical thinking, tryJeremy WyndhamWhy do buses come in threes?Jeremy WyndhamHow long is a piece of string?Simon SinghFermat's Last Theoremwww.nrich.mths.org.uk

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