Most learning is achieved through grappling with problems which are not straight-forward.

What students say about this subject:

- · I like the teaching methods of the course
- Good student support
- The teachers are easy to talk to
- Interesting & Challenging
- Further maths has been fun, interesting and most of all a challenge
- The first few months were difficult for me but once I got used to it, it became easier to understand

Personal Study Time

A level students are expected to devote as many hours outside of college to their studies as they are given in lessons. Homework will be set regularly, but students are also expected to undertake self directed study, this is necessary to ensure the underpinning of knowledge is learnt and understood; ensuring further concepts are more easily grasped.

Where can it lead?

Many students go on to university to take subjects with mathematical content, such as; Mathematical Studies, Engineering, Physics, Computer Science or Medicine. Mathematicians are highly sought after in many fields including financial services, engineering, medicine, insurance, aerospace, construction, education and consultancies.

Enrichment

The Mathematics Department runs many enrichment activities. The department has a long history of entering mathematical competitions including the UKMT Senior Maths individual and team Challenge and the Math Olympiad. In more recent years we have also entered teams and individuals in the University of Southampton's National Cipher Challenge where our students regularly win cash prizes Various Maths trips have been arranged. We have strong ties with the local branch of the Mathematics Association which organises a whole range of events every year.

Support

Maths support is available to all students. We also offer AEA and STEP support.

- "I really like the homework club which any one is free to attend."
- "The teaching is excellent and when I do not understand help is given to help me understand."



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GCSE & A Level Mathematics



The aim of the Maths department is to help all students who are willing to work hard to achieve the results that will help them progress to the next stage of their chosen careers. We also hope that students will enjoy studying the subject and that they will gain from the experience of learning more about Mathematics.



Why study Maths?

Mathematics is undoubtedly one of the most valued and versatile qualifications available to 16-19 year old students. A good grade in this subject is a clear indication of your ability to work hard, think logically and solve problems.

Mathematics Courses at Varndean College:

Number and Measure Level 1: This course is aimed at students who need to develop their basic mathematical skills and build confidence in the subject before progressing to GCSE Mathematics or who want to gain a qualification which demonstrates their mathematical ability

GCSE Higher : **Minimum Maths GCSE grade 4.** This course is designed for students who want to improve their GCSE grade.

GCSE Foundation : **Minimum Maths GCSE grade 2**. This course is designed for students who wish to gain a grade 4 to enable them to progress to other courses or careers.

A Level Maths: Minimum Maths GCSE grade 6. This course is designed for students who wish to follow a broadly based course in Mathematics. It provides students with an extremely useful subject that is highly regarded by universities and employers.

A Level Further Maths: Minimum Maths GCSE grade 7.

This course is designed for those students who have a natural flair for maths and are considering mathematical options for further study or for their careers; it leads to the award of two separate A Levels.

The Russell Group Informed Choices Guide lists Further Mathematics as useful for: Actuarial Science/ Studies; Aeronautical Engineering; Biochemistry; Biomedical Sciences (including Medical Science); Chemical Engineering; Chemistry; Computing; Dentistry; Electrical/Electronic Engineering; Engineering Mathematics; Mechanical Engineering; Medicine; Optometry (Ophthalmic Optics); Physics; and Veterinary Science.

A Level Maths

The mathematician Benjamin Pierce called mathematics "the science that draws necessary conclusions" and that is exactly what you'll do in an A Level Mathematics course. Students gain an A Level Mathematics qualification which includes algebra, calculus, trigonometry and curve sketching that can then be applied to a variety of challenging problems as well as modelling real life situations. Students also study applied modules of Mechanics (the mathematics of physics), and Statistics.

A Level Further Mathematics

This is an extension of the A level Mathematics course. Some of the topics in Further Mathematics are taken from the Mathematics course and developed to a more sophisticated level. These include calculus techniques, graphs, the algebra of polynomial equations and sequences and series.

Other topics are entirely new, introducing ideas which are often contained in the first year of a Mathematics degree course. These are Matrices and Complex numbers. There are some standard A level modules included which broaden the students' mathematical knowledge and skills. These are chosen from Statistics, Mechanics and Decision Mathematics which you are not already studying in A level Mathematics.

Will this subject suit me?

You must enjoy mathematics! This involves analysis of complex and subtle information; reasoning; presentation of logical working. A key characteristic of a successful maths student is to be tenacious in the face of adversity. A Level mathematics is a subject which needs to be taken by a student who has a keen interest in the subject and a good background in Algebra.

A student taking mathematics would enjoy dealing with abstract concepts and enjoy the challenge of tackling concepts and difficult questions which require all the knowledge you've amassed.



