

A-LEVEL / EDEXCEL / 2 YEARS

# FURTHER MATHEMATICS

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Further Mathematics extends and develops the topics introduced in the Mathematics course and introduces some new topics such as complex numbers. The course provides an excellent grounding for anyone going on to study Mathematics, Engineering or Physics at university

Further Mathematics provides a great opportunity for enthusiastic mathematicians to broaden and deepen their subject knowledge. It is for those students who love Mathematics and want to devote more time to studying wider aspects of the subject.

Topics studied on this course include complex numbers and matrices. Complex numbers allow the solution of a range of equations, which would otherwise have no solutions, through the introduction of imaginary numbers. Matrices consist of grids of numbers, which can be used to represent transformations and are used to solve simultaneous equations amongst many other things. Other areas of Pure Mathematics are included such as polar co-ordinates, differential equations and hyperbolic functions.

Each of these builds on earlier topics and encourages the development of a wider understanding of the ways in which mathematical topics are interconnected. Further Mathematics provides the opportunity to study the applications of Mathematics in more detail. All three areas of Decision Mathematics, Mechanics and Statistics may be covered.

## TEACHING & LEARNING METHODS

Students will be taught by specialist teachers and experience a wide variety of lesson activities such as investigation, group tasks and individual study. Students are expected to complete frequent homework tasks and are tested on a regular basis.

## ASSESSMENT INFORMATION

The course is assessed by three external exams at the end of Year 13.

## SUBJECT COMBINATIONS

Anyone choosing to study Further Mathematics must also study Mathematics (please refer to the flyer for more information on this course). Further Mathematics works well alongside other subjects with a high mathematical content such as Physics, Chemistry and Computer Science.

## CAREERS/HE INFORMATION

Further Mathematics A-level is an excellent precursor to a Mathematics or Physics degree and indeed may be a required subject at some universities for these courses. In addition past students have gone on to study Chemistry, Computer Science, Economics, Geography, Music amongst other subjects.

The employment opportunities for mathematicians are many and varied, with graduates going on to work in most sectors including education, engineering and finance.