



As well as being a fascinating subject in itself that will help you unlock the mysteries of science, technology and statistics, studying mathematics offers higher earning potential, exciting career opportunities and a grounding in important life skills.

If you want to study a STEM subject at university, you'll usually need to have an A Level in Maths under your belt. Today, many of the most exciting new careers require a foundation in mathematics. Game design, app development, astronomy – some of the most stimulating job roles are filled with mathematics specialists, and you can bet that future developments in technology will open up occupations that haven't even been invented yet.

A level Mathematics is an interesting and challenging course which extends the methods you learned at GCSE and includes optional applications of mathematics, such as Statistics, and Mechanics. Statistics – Collecting and analysing data and using this to make predictions about future events. Many subjects make use of statistical information and techniques. An understanding of probability and risk is important in careers like insurance, medicine, engineering and the sciences. Mechanics – Modelling and analysing the physical world around us, including the study of forces and motion. Mechanics is particular useful to students studying physics and engineering.

The department will follow The Pearson Edexcel Level 3 Advanced GCE in Mathematics, which consists of three externally examined papers. Students will be completing the following papers at the end of their final year in May/June. All three papers are: written examination, 2 hours, 33.33% of the qualification, and 100 marks. Calculators can be used in all 3 examinations.

Paper 1: Pure Mathematics 1
(*Paper code: 9MA0/01).

Proof, Algebra and functions, Coordinate geometry in the (x,y) plane, Sequences and series, Trigonometry, Exponentials and logarithms, Differentiation, Integration, Vectors.

Paper 2: Pure Mathematics 2
(*Paper code: 9MA0/02).

Proof, Algebra and functions, Coordinate geometry in the (x,y) plane, Sequences and series, Trigonometry, Differentiation, Integration, Numerical methods.

Paper3: (*Paper code: 9MA0/03)

Section A: Statistics

Statistical sampling, Data presentation and interpretation, Probability, Statistical distributions, Statistical hypothesis testing

Section B: Mechanics

Quantities and units in mechanics, Kinematics, Forces and Newton's laws, Moments.

Useful websites/further reading

www.mathscareers.org.uk

www.plus.maths.org

www.furthermaths.org.uk

www.undergroundmathematics.org

