

Course Information



A Level Further Mathematics

What is A Level Further Mathematics ?

This subject carries great weight with universities. It is designed for the most able mathematicians. It is particularly suitable for students wanting to study Mathematics at university but also supports engineers and scientists.

What does the course involve?

There are four components which make up the qualification. Two are compulsory on Pure mathematics and students can choose two more from Pure Mathematics, Statistics, Mechanics or Decision Mathematics.

Entry requirements Grade 8 or 9 at GCSE Mathematics

What themes are studied?

Compulsory Pure component. Papers 1 and 2

This requires an understanding of:

Proof, Complex numbers, Matrices, Functions, Vectors, Calculus, Polar coordinates, Hyperbolic functions and Differential equations.

Additional Units (two to be studied)

Further Pure 3

Calculus, Differential equations Numerical methods, Inequalities

Further Pure 4

Matrix algebra, Complex numbers, Number theory, Sequences and series

Further Statistics 1

Linear regression, Statistical distributions, Correlations, Chi squared tests

Further Statistics 2

Probability distributions, Random variables, Confidence intervals, Normal distributions, Estimators.

Further Mechanics 1

Momentum, Impulse, Collisions, Work, Energy, Elasticity.

Further Mechanics 2

Kinematics, Motion in a circle, Rigid bodies, Collisions in two dimensions.

Decision Mathematics 1

Algorithms, Graph theory, Linear programming, Critical path analysis.

Decision Mathematics 2

Transportation problems, Programming, Game theory, Recurrence relationships, Decision analysis.

Assessment.

There are four assessment papers of 1h 30 mins duration each contributing to 25% of the final award.

Exam Board Edexcel

For more information about the course, your suitability for it, and possible career paths for students see the displays in the Maths area, talk to your Mathematics teacher or Mr Cunningham, Head of Mathematics Faculty.