A Level Maths

What are the entry requirements?
Normal entry requirements with GCSE Mathematics at grade 6 or above.
A good understanding of all GCSE Algebra topics is expected.

What does the course involve?
Two-thirds of the work is Pure Mathematics, with one-sixth each of Statistics and Mechanics.

Pure Mathematics

Builds on and develops the algebraic and trigonometric techniques students have learnt at GCSE so that they acquire the fluency required for advanced work, and introduces students to a number of topics fundamental to the advanced study of mathematics, such as calculus.
Topics:
- Modelling and Proof
- Algebra
- Polynomials
- Binomial expansion
- Co-ordinate Geometry
- Transformations of Curves
- Sequences and Series
- Exponentials and Logarithms
- Trigonometry
- Differentiation
- Integration
- Numerical Methods
- Vectors

Statistics

Enables students to build on and extend the data handling and sampling techniques they have learnt at GCSE. They will apply theoretical knowledge to practical situations using simple probability models, and extend their ability to represent data in bivariate situations, with an emphasis on linear and rank order modelling, and associated hypothesis testing.
Topics:
Statistical Sampling
Data Presentation and Interpretation
Probability
Statistical Distributions
Hypothesis Testing

Mechanics

Introduces students to mathematical modelling and to the basic concepts in kinematics, statics and dynamics. They will then develop and extend the range of mechanical concepts which they are able to use in modelling situations.
Topics:
Quantities and Units

Kinematics
Forces and Newton's Laws
Moments

Progression

In addition to being essential for studying Mathematics at university, A-Level Mathematics is often necessary to gain admission to other university courses, such as Accounts, Economics, Financial Management, Medicine and the sciences. It can also be a preferred A-level in almost any BSc subject, including Geography, Sociology and Psychology.

Where can I find out more?

Talk to your Mathematics teacher or Mr Ludlam about what A-Level Mathematics entails to get more details and to find out if it will be suitable for you.