Maths

Course content

Maths is a stimulating and rewarding course that is highly regarded by universities and employers. Additionally, however, studying maths will greatly improve your numeracy which is a life skill that can have profound positive effects on you. Having high levels of numeracy is linked with higher wages, will enable you to make sense of charts and information reported in the media and have financial capability.

The following topics are studied during A level Maths:

Pure Maths

This is the study of the more abstract elements of maths, which teaches the knowledge and skills that underpin the entire course.

- Topic 1 – Proof
- Topic 2 – Algebra and functions
- Topic 3 – Coordinate geometry in the (x, y) plane
- Topic 4 – Sequences and series
- Topic 5 – Trigonometry
- Topic 6 – Exponentials and logarithms
- Topic 7 – Differentiation
- Topic 8 – Integration
- Topic 9 – Numerical methods
- Topic 10 – Vectors

Statistics

When you study statistics you will learn how to analyse and summarise numerical data to arrive at conclusions about it. Many of the ideas in this part of the course have applications in a wide range of other fields, from assessing what your car insurance is going to cost to how likely it is that the Earth will be hit by a comet in the next few years.

- Topic 1 – Statistical sampling
- Topic 2 – Data presentation and interpretation
- Topic 3 – Probability
- Topic 4 – Statistical distributions
- Topic 5 – Statistical hypothesis testing

Mechanics

Mechanics deals with the action of forces on objects. It is therefore concerned with many everyday situations, e.g. the motion of cars, the flight of a cricket ball through the air, the stresses in bridges and the motion of the earth around the sun. Such problems have to be simplified or modelled to make them capable of solutions using relatively simple mathematics.

- Topic 6 – Quantities and units in mechanics
- Topic 7 – Kinematics
- Topic 8 – Forces and Newton's laws
- Topic 9 – Moments

Entry requirements

Grade 6 in GCSE Maths

Assessment

1. Pure Mathematics 1 – 2 hours (written paper) – 100 marks - 33.33% of A-level
2. Pure Mathematics 2– 2 hours (written paper) – 100 marks - 33.33% of A – level
3. Statistics & Mechanics – 2 hours (written paper) -100 marks - 33:33% of A- level

Progression

There are a wealth of careers and degree choices that either require or would benefit from studying maths including; Engineering, Computing, Medicine, Science, Finance and Economics, Accountancy and Architecture