

Maths

Awarding Body: Edexcel

Level: AS/A-Level

Introduction

A-Level Mathematics is a course which is highly suitable for those students who have performed well at GCSE level, enjoy the subject and are committed to learning new concepts. Throughout the course you will develop your ability to reason mathematically, solve problems and model real life situations. Universities look upon mathematics favourably and consider it to be excellent preparation for many courses and future careers.

Year one / AS content

Your study will look at many aspects of mathematics, with an initial focus being one that develops your algebraic skills. The course covers both Pure Maths (2/3) and Applied Maths (1/3), the latter consisting of Statistics and Mechanics. The content for each module is as follows:

- Pure Maths 1: Algebra and functions • Coordinate geometry in the (x, y) plane • Trigonometry • Exponentials and logarithms • Differentiation • Integration • Vectors
- Statistics: Statistical sampling • Data presentation and interpretation • Probability • Statistical distributions • Statistical hypothesis testing
- Mechanics: Quantities and units in mechanics • Kinematics • Forces and Newton's laws.

For those wishing to study at AS level only, there are 2 written exams to be sat in the May/June exam series. A calculator may be used in both assessments. The first paper covers the Pure content and has a weighting of 2/3. The second paper covers both applied modules (section A – Statistics, section B – Mechanics) and has a weighting on 1/3.

Year two content

At A-Level the subject develops still further, and students continue to study 2/3 Pure, 1/6 Statistics and 1/6 Mechanics.

- Pure Maths 2: Proof • Algebra and functions • Sequences and series • Trigonometry • Differentiation • Numerical methods • Integration • Vectors

- Statistics: Statistical sampling • Data presentation and interpretation • Probability • Statistical distributions • Statistical hypothesis testing
- Mechanics: Quantities and units in mechanics • Kinematics • Forces and Newton's laws.

The A-Level consists of 3 equally weighted written exams, all of which will be taken in the May/June exam series of the second year of teaching. Papers 1 and 2 may contain questions on any topic from the Year 1 or Year 2 Pure Maths course. Paper 3 will contain questions on topics from the Statistics content in Section A and Mechanics content in Section B.

Entry requirement

At least a grade 6 in GCSE Maths.

Career and further study

Students who study A-Level Maths may go on to study degree courses in Mathematics, Economics, Accounting, Physics, Business Studies, Computer Sciences and Mechanical Engineering, to name just a few.

Potential career opportunities are extremely widespread - from Business and Finance through to Therapy Professionals!

Costs

You are expected to purchase your own text books and a suitable scientific/graphics calculator.