



Mathematics

QUALIFICATION: A-LEVEL

Awarding Body:

OCR

Length of Course:

2 Years

The AS/A Level course in Mathematics encourages learners to think and act mathematically, using mathematical skills and forms of communication to analyse situations within mathematics and elsewhere. The course provides a broad and widely applicable base of mathematical knowledge, including rigorous treatment of calculus and proof alongside statistics and mechanics.

AS/A-Level qualifications build on the skills, knowledge and understanding set out in the GCSE subject content for mathematics.

The content is separated into three areas: **Pure Mathematics, Statistics and Mechanics.**

The topics studied over the two years are:

Pure Mathematics

Proof, algebra and functions, co-ordinate geometry, sequences and series, trigonometry, exponentials and logarithms, differentiation, integration, numerical methods, vectors.

Mechanics

Quantities and units in mechanics, kinematics, forces and Newton's laws and moments.

Statistics

Statistical sampling, data presentation and interpretation, probability, statistical distributions, statistical hypothesis testing.

As part of the statistics content students are expected to work with a large data set. The purpose of the large data set is that learners experience working with real data in the classroom and can explore this data using appropriate technology. This data set is available on the OCR website.

Assessment at AS Level

Two equally weighted examinations, each 1 hour and 30 minutes, taken at the end of Year 12.

Students are allowed the use of a calculator in both papers:

Paper 1: Pure Maths and Statistics

Paper 2: Pure Maths and Mechanics

Assessment at A Level

Three equally weighted examinations, each 2 hours in length, taken at the end of Year 13.

Students are allowed the use of a calculator in all papers:

Paper 1: Pure Maths

Paper 2: Pure Maths and Statistics

Paper 3: Pure Maths and Mechanics

Relevance to Further Studies and Careers

The course provides a broad and widely applicable base of mathematical knowledge, preparing learners for a wide range of destinations in Higher Education and employment. An AS or A Level in Mathematics opens the doors to many career opportunities and is an impressive qualification to have on any CV. Essential for many university courses such as Mathematics and desirable for many including those in the scientific/medical profession.

ENTRY REQUIREMENTS

Mathematics GCSE Grade 6

[St. Anthony's & St. Aidan's Catholic Sixth Form](#) Thornhill Terrace, Sunderland, SR2 7JN

Telephone +44 (0) 191 5658904

Email enquiries@st-anthonys-academy.com

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SIXTH FORM VISIT

GIRLS' SCHOOL VISIT

BOYS' SCHOOL VISIT