The Oldershaw School

A Level Mathematics - HOD: Mr K Williams

Course Outline & Exam Ratio

All students studying Advanced Level Mathematics will have studied the higher level GCSE course and achieved a minimum of Grade 6 at GCSE.

Students studying Advanced Mathematics follow the AQA (7357) course. The course structure consists of compulsory elements of pure mathematics, mechanics and statistics with an option to sit AS mathematics at the end of year 12 before continuing on with further study for Advanced Level in year 13. There is no coursework element with this particular specification. There are regular assessments to check progress, with feedback given and students know their current and predicted grades at all times. Mathematics is delivered by two specialist mathematics teachers in six sessions per week of 50 minutes duration

The two year A-level course is broken down as follows:

Autumn terms: Pure mathematics / Statistics (calculator allowed)
Spring terms: Pure mathematics /Mechanics (calculator allowed)

At the end of year 12 students sit two external examinations of 1½ hours in length in order to achieve the AS qualification in mathematics. The rest of the summer term in year 12 is dedicated to delivering more pure mathematics content.

In June of year 13 students sit three external examinations of 2 hours in length in order to gain the Advanced Level qualification in Mathematics.

The pure topics aim to develop an understanding of mathematical principles and techniques. The applications units include a variety of topics on mechanics and problem solving techniques. The effects of forces on objects, motion in a straight line and in a circle are considered in Mechanics. Problem solving considers methods of analysing situations in a mathematical way to develop solutions.

Students are regularly stretched and challenged as they develop their mathematical understanding. Homework is set twice per week with a mix of short questions and longer, more probing problems.

Progression Routes

Many of our students move on to higher education where they find that an A –level in mathematics is invaluable. Mathematical qualities are recognised as evidence of mental ability by employers and mathematicians are needed more than ever before, both for their specific skills and their intellectual capabilities. It is essential for the advancement of modern technology, the sciences, medicine, economics and education. There is also a growing use of mathematical techniques in the arts and the humanities and it is required in the fields of data processing, operational research and statistics, and computing. Thus there is a need for mathematicians in industry, commerce, the public services, administration and management.

Enrichment Opportunities

The mathematics department has developed links to the department of mathematical sciences at Liverpool University. We regularly use resources provided by them to enrich the experiences of our students and help them to find solutions to problems in a number of different ways.

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