



A Level

Specification: JMS - OCR B (MEI)

FURTHER MATHS

Contact:

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What will I study?

- Pure mathematics

This will include proof, complex numbers, matrices, roots of polynomials, 3D vectors and differential equations

- Mechanics

This will include momentum and impulse, work, energy and power and collisions.

- Statistics

This will include Poisson distributions, chi-squared tests, bivariate data and regression lines.

- Modelling with algorithms

This will include Network algorithms, Critical path analysis and Linear programming. The techniques are important in business, logistics and computer science.

How will I be assessed?

This is a linear course. You will take four examinations at the end of the course. Each will require a calculator. As well as the Pure, Mechanics, Statistics and Modelling with Algorithms content the examinations will assess three overarching themes:

- Mathematical argument, language and proof
- Mathematical problem solving
- Mathematical modelling

How will I learn?

In lessons, new topics will be taught by relating them to existing knowledge and the purpose of the topic. Weekly homework exercises will be set so that new skills and knowledge are consolidated and applied in contextual problems.

Students are expected to complete all homework with support where necessary in the weekly after school 'study group'. Practice exercises are self-assessed and then checked by the class teacher.

Regular assessments will be set based on the exam board style of questions.

What skills will I need?

- Fluent algebraic skills
- Ability to work independently
- Confident use of technology
- Resilience
- Enthusiasm for mathematics

Careers & Progression

Further Mathematics is a versatile qualification, well-respected by employers and a "facilitating" subject for entry to higher education. Studying Further Mathematics broadens your mathematical skills and promotes deeper mathematical thinking. It is likely to improve your grade in A level Mathematics. The extra time, additional practice, further consolidation and development of techniques contribute to improved results in A level Mathematics.

Careers for men and women with good mathematics skills and qualifications are not only well paid, but they are also often interesting and rewarding. People who have studied mathematics are in the fortunate position of having an excellent choice of career.

The reason why so many employers highly value mathematics qualifications is mathematics students become better at thinking logically and analytically. Through solving problems you develop resilience and are able to think creatively and strategically. The writing of structured solutions, proof and justification of results help you to formulate reasoned arguments. And importantly you will have excellent numeracy skills and the ability to process and interpret data.

The mathematical skills you learn in A level Further Mathematics are of great benefit in other A level subjects such as physics, chemistry, biology, computing, geography, psychology, economics and business studies.