



A Level

Specification: Edexcel

# MATHEMATICS

## Contact:

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## What will I study?

- Pure mathematics

This will include proof, algebra, graphs, sequences, trigonometry, logarithms, calculus and vectors.

- Mechanics

This will include kinematics, motion under gravity, working with forces including friction, Newton's laws and simple moments.

- Statistics

This will include working with data from a sample to make inferences about a population, probability, calculations, using binomial and Normal distributions as models and statistical hypothesis testing.

## How will I be assessed?

This is a linear course. You will take three 2 hour long examinations at the end of the course. Each will require a calculator. As well as the Pure, Mechanics and Statistics 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

Confidence use of technology

Resilience

Enthusiasm for mathematics

## Careers & Progression

Mathematics is a versatile qualification, well-respected by employers and a "facilitating" subject for entry to higher education. 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. Whilst the number of young people studying A level Mathematics is increasing there is still a huge demand from science, engineering and manufacturing employers.

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