

# Mathematics

## A Level

**Examination Board: PEARSON EDEXCEL**

### Aims of course:

To encourage candidates to:

- Understand mathematics and mathematical processes and to promote confidence, enjoyment and provide a strong foundation for further study;
- Understand coherence and progression and how different areas of mathematics are connected;
- Apply mathematics in other fields of study;
- Represent situations mathematically and understand the relationship between problems in context and mathematical models.

### Programme of study

Module	Module Description
Pure	Proof, Algebra and functions, Coordinate geometry in the $(x, y)$ plane, Sequences and series, Trigonometry, Exponentials and logarithms, Differentiation, Integration, Vectors
Mechanics	Quantities and units in mechanics, Kinematics, Forces and Newton's laws, Moments
Statistics	Statistical sampling, Data presentation and interpretation, Probability, Statistical distributions, Statistical hypothesis testing

### Approaches to learning:

In Mathematics the students study the full A Level course over two years. Students will study three subjects: Pure, Mechanics and Statistics.

There are three over-arching themes:

- Comprehend and critique mathematical arguments, proofs and justifications of methods and formulae, including those relating to applications of mathematics.
- Understand, interpret and extract information from diagrams and construct mathematical diagrams to solve problems, including in mechanics;
- Understand and use modelling assumptions.

There are three assessment and learning objectives:

- Use and apply standard techniques;
- Reason, interpret and communicate mathematically;
- Solve problems within mathematics and in other contexts.

### Who is this course aimed at?

Students who wish to pursue a further study in Mathematics, Engineering, Business or related work. Mathematics is a course worth studying in its own right. It is challenging but interesting. It builds on what you have learnt at GCSE, but also involves new ideas that some of the greatest minds in history have produced. It serves as a very useful support for many other qualifications as well as being a much sought-after qualification for the workplace and courses in higher education.

### Minimum entry requirement:

**Five GCSEs at grade 9-5, including Mathematics and English.  
+ GCSE grade 7 in Mathematics.**

*All subjects will be terminally examined at the end of two years, with internal exams throughout year 1 and 2.*

*Please note: The course is dependent on numbers registering their interest to study at A Level. The subject will only run if there are sufficient student numbers.*