

# INTRODUCTION TO MATHEMATICS A LEVEL

**Leads to versatile qualifications**  
well-respected by employers and higher education

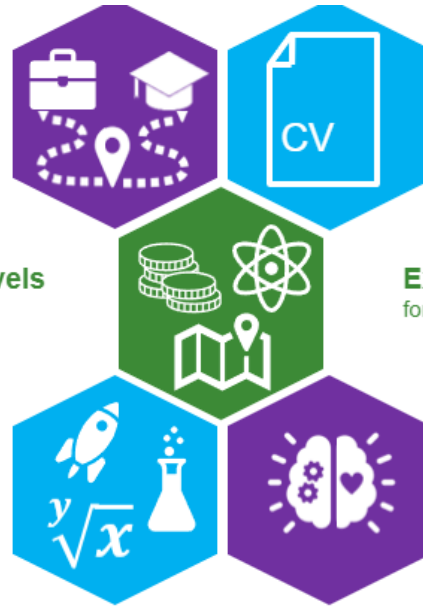
**Develop key employability skills**  
E.g. problem-solving, communication,  
logical reasoning and resilience

**Support the study of other A levels**

**Excellent preparation**  
for a wide range of university courses

**Increase knowledge and awareness**  
of mathematical techniques and their applications

**Stimulating and challenging courses**



# STRUCTURE

This is a two year A Level course.

You will usually have 9 lessons per fortnight with two teachers.

There is **NO coursework**.

**3 Examinations** will be sat in the Summer of Year 13.

Paper 1:

Pure Mathematics & Mechanics	100Marks	2hours	36.4%weighting
------------------------------	----------	--------	----------------

Paper 2:

Pure Mathematics & Statistics	100Marks	2hours	36.4%weighting
-------------------------------	----------	--------	----------------

There will be some questions relating to a pre-released large data set.

Both Paper 1 and 2 are assessed in the same way;

Section A: shorter questions, minimal reading      Section B: Longer questions, problem solving

Paper 3:

Pure Mathematics & Comprehension	75Marks	2hours	27.3%weighting
----------------------------------	---------	--------	----------------

Assessed in two sections; Section A: 60 marks based on pure core

Section B: 15 marks on an unseen comprehension passage based on the core content of the course.

# COURSE CONTENT

Three main themes run through the course:

1. Mathematical argument, language, and proof
2. Mathematical problem solving
3. Mathematical modelling.

Three key areas of maths are studied:

**Area 1: Pure mathematics**

**Proof**

**Algebra**

**Functions**

**Graphs**

**Calculus**

**Vectors**

**Coordinate geometry**

**Sequences and series**

**Exponentials and logarithms**

**Numerical methods**

**Trigonometry**

**Area 2: Statistics**

This is useful to support courses such as biology and psychology. You will look at presenting and analysing data, as well as probability distributions and hypothesis testing.

**Area 3: Mechanics**

This is useful to support courses such as physics and engineering. You will look at modelling scenarios involving kinematics in both one and two dimensions and projectiles, as well as applying Newton's laws of motion.

# HOW YOU WILL BE ASSESSED

You will complete practice questions and exercises through out the course. Submitting some exit tickets and completing online assessments via integral for frequent feedback.

After the completion of every section you will complete an end of chapter assessment which will be uploaded for marking by your teacher through the teams channel. These are normally completed as part of a homework.

You will sit termly assessments and mock assessment in line with the school assessment calendar which will contain questions on all areas taught and so clear notes/examples and regular revision is important.

You will sit two Year 12 **mock** papers towards the end of Year 12.

You will sit three **actual exam** papers at the end of Year 13. These will contribute to the Mathematics A Level Grade that you are awarded in August.

See the Assessment Overview on slide 2 for weighting and length of each examination.

# WHERE CAN A MATHEMATICS DEGREE TAKE YOU?



# Other sources of information

AMSP website [www.amspace.org.uk](http://www.amspace.org.uk)

Maths Careers website [www.mathscareers.org.uk](http://www.mathscareers.org.uk)

Stem [www.stem.org.uk/core-maths/students-parents-carers](http://www.stem.org.uk/core-maths/students-parents-carers)

Apprenticeship websites e.g. [www.amazingapprenticeships.com](http://www.amazingapprenticeships.com)

Universities and Colleges Admissions Service (UCAS) [www.ucas.com](http://www.ucas.com)

Russell Group Universities [www.informedchoices.ac.uk](http://www.informedchoices.ac.uk)

Tomorrow's Engineers [www.tomorrowsengineers.org.uk](http://www.tomorrowsengineers.org.uk)

The Institute of Physics (IOP) [www.iop.org](http://www.iop.org)

Nrich [www.nrich.org.uk](http://www.nrich.org.uk)