

## POST 16 SUBJECT OVERVIEW

**Name of Subject** - A level Mathematics

**Which Examination Specification is Studied for this Course?** AQA A Level maths 7357

### **Why should I study this course?**

A-level Mathematics offers students with a good understanding of Maths the chance to study it at a higher level. It provides a thorough grounding in the mathematical tools and techniques often needed in the workplace. Techniques covered include algebra & proof, geometry trigonometry calculus, exponentials & logarithms, sequences & series and numerical methods which together form the fundamental building blocks of the subject. We will also study some applied mathematics, statistics (sampling, regression, measures of central tendency & spread, probability distributions and hypothesis testing) and mechanics (vectors, constant acceleration formulae, Newton's laws, projectile motion, friction and moments). Please note that both the pure & applied content is all standardised and no longer varies based upon exam board chosen.

Students will enjoy studying a course which will give them a strong foundation for study in other A-level subjects and many varied careers from Astronomer to Zoologist, Cryptologist to Cartographer: Statistician to Systems Engineer and Meteorologist to Mathematician!

By the end of the course students will have: an understanding of the mathematics that underpin many aspects of our lives, the ability to apply a range of mathematical skills to different situations: acute logical thinking and problem-solving abilities, and the ability to process, interpret & analyse information. We hope to see you in our A-level classicom next year!

**Who is suitable to study this course?** -Year 1 involves methods/topics that are used in the sciences, geography, psychology, business studies and law. The A level qualification is essential for a degree in the subject and suggested for related higher education. Courses, especially engineering, architecture, medicine, accountancy, economics, sciences and computer science.

### **What GCSE Qualifications Support the Study of this Course?**

Maths Higher tier, Further maths, Statistics.

### What are the Qualification Requirements for this Course?

We require a grade 6 in GCSE maths, but a grade 7 is recommended due to the reliance of A level maths on GCSE topics.

**How is the Course Delivered?** - You will be taught 5 hours of lessons per week which we expect you to follow with 5 hours of private study. You may be taught by a single maths specialist or have two teachers on a 3hour/2 hour split.

Pure Mathematics - Techniques in Proof, Algebra and Functions, Coordinate Geometry, Sequences and Series, Trigonometry, Exponentials and Logarithms and Differentiation, Integration and Numerical Methods (Advanced only).

Statistics - Techniques in sampling, data presentation and interpretation, Probability, Statistical distributions & Statistical Hypothesis testing:

Mechanics - Techniques in Vectors, Quantities and units in Mechanics, Kinematics, Forces and Newton's Laws & Moments (Advanced only)

If you are taught by 2 teachers, the pure will be split, then the mechanics will be taught by one teacher and the statistics by the other.

Subject Overview		
Half Term	Year 12	Year 13
Autumn 1	Pure (mainly topics extended from GCSE)	Pure
Autumn 2	Pure	Pure
Spring 1	Pure, Mechanics, Stats	Mechanics and stats
Spring 2	Pure, Mechanics, Stats	Mechanics and stats
Summer 1	Pure	Reivision

<b>Summer 2</b>	Pure (start of Y13 teaching)	Examination
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### **How is the Course Assessed?**

#### **Praising stars**

You will be assessed each half term on the topics you have covered.

Towards the end of y12 you will sit a paper that covers all your learning so far.

#### **Y13 final examination**

Paper 1-2 hrs. Pure Maths (100 marks)

Paper 2-2 hrs. Pure Maths (50 marks) & Mechanics (50 marks)

Paper 3 - 2 hrs. Pure Maths (50 marks) & Statistics (50 marks)

#### **What is our Recommended Subject Reading list to Support your Study? -**

*Cambridge: A level Mathematics for AQA Student book 1 and student book 2. (these will be issued to you when you enroll.)*

