



A-LEVEL MATHEMATICS

TOGETHER WE SUCCEED
ACHIEVEMENT ASPIRATION HIGH EXPECTATIONS COMMUNITY

A-LEVEL MATHEMATICS

EXAM BOARD: EDEXCEL

Aims of the Course:

The A-Level course will encourage students to:

- Extend students range of mathematical skills and techniques
- Understand coherence and progression in mathematics and how different areas of mathematics are connected
- Apply mathematics in other fields of study and be aware of the relevance of mathematics to the world of work and to situations in society in general
- Use their mathematical knowledge to make logical and reasoned decisions in solving problems

Programme of Study:

A-level Math's builds on the skills, knowledge and understanding that students have gained during their time studying for the Higher tier GCSE. Students choosing A-level Math's will go on to study the following overarching themes:

OT1: Mathematical argument, language and proof

OT2: Mathematical problem solving

OT3: Mathematical modelling.

These must be applied, along with associated mathematical thinking and understanding, across the whole of the detailed content below.

- Proof
- Algebra and Functions
- Coordinate Geometry
- Sequences and Series
- Trigonometry
- Exponentials and logarithms
- Differentiation
- Integration
- Numerical Methods
- Vectors
- Data presentation and interpretation
- Statistical sampling
- Probability
- Statistical distributions
- Statistical hypothesis testing
- Quantities and units in mechanics
- Kinematics
- Forces and Newton's laws
- Moments

Approaches to Learning:

Include teacher led instruction, discussion and consolidation in lessons. There is also an expectation of student led private study and homework.

This course is for you if you are a self-motivated, independent learner with an excellent work ethic, both in and out of lessons. You will receive lots of encouragement and support from the Math's department to help you to achieve your potential. If you are able and passionate about Mathematics, then you will have a great time and obtain a qualification that can lead to a bright future.

This course will prepare you for a wide range of degree courses, especially Mathematics (including Pure, Applied and Statistical), but also Science, Engineering, Computing and Finance. It can lead to a Science based career, work as a Statistician, Accountant, within the Finance sector, in Engineering and Teaching.

How it's Assessed:

- Three written exam papers at the end of the course.
- Each exam paper is 2 hours long and worth 100 marks.
- Each paper contains a mix of question styles, from short single-mark questions to multi-step problems.

Minimum Entry Requirements:

Five grade 5-9 GCSE passes including English and Math's and grade 7-9 in Math's.

STEP-UP INDEPENDENT STUDY TASKS

Brief explanation of the rationale behind the tasks you have set: Some of the higher algebra and geometry skills learnt at GCSE form the basis of the early part of the Year 12 course. These tasks will ensure these skills are firmly in place and ready to build upon.

How will the tasks support the student's understanding of the course?

The tasks set, will give students an opportunity to practice some of the key skills required early in Year 12 hence facilitating a smooth transition from GCSE to A level.

Task 1 & 2

Instructions

Complete all questions and mark using the mark scheme included in the task.

Submit during lessons in the first week in September

Useful resources

There are a number of websites which contain videos that may be useful to help you if you have forgotten any of the skills, these include

www.1stclassmaths.com/aqarevision

corbettmaths.com/contents/

COMPLETED TASK

Student Name			
Subject Teacher		Date:	
Form Tutor:		Date:	