



MATHEMATICS

QUALIFICATION: A Level

EXAM BOARD: Edexcel

COURSE LEADER:
Mr Joyce

"I took A Level Maths because I really enjoyed Maths at GCSE and I found I had a real aptitude for it. It's been a really rewarding experience and it's given me a real insight into higher level maths."

COURSE CONTENT

Mathematics at A Level involves learning new skills in Pure Mathematics as well as Mechanics and Statistics. Building on the higher-level skills of GCSE, mathematicians will need to have a passion for the subject and a genuine problem-solving interest.

Problems will require students to develop and test models or hypotheses, which will build on the skills learned at GCSE. Students will be required to answer synoptic questions which link all areas of Mathematics rather than testing individual topics.

During the course students will learn to understand mathematics and mathematical processes in a way that promotes confidence, fosters enjoyment, and provides a strong foundation for progress to further study.

Content overview

Pure:

- Topic 1 – Proof
- Topic 2 – Algebra and functions
- Topic 3 – Coordinate geometry in the (x, y) plane
- Topic 4 – Sequences and series
- Topic 5 – Trigonometry
- Topic 6 – Exponentials and logarithms
- Topic 7 – Differentiation
- Topic 8 – Integration
- Topic 9 – Numerical methods
- Topic 10 – Vectors

Section A: Statistics

- Topic 1 – Statistical sampling
- Topic 2 – Data presentation/interpretation
- Topic 3 – Probability
- Topic 4 – Statistical distributions
- Topic 5 – Statistical hypothesis testing

Section B: Mechanics

- Topic 6 – Quantities & units in mechanics
- Topic 7 – Kinematics
- Topic 8 – Forces and Newton's laws
- Topic 9 – Moments

PREPARATION FOR STUDYING THIS SUBJECT

Work on the Grade 7 – 9 topics within your GCSE, particularly the manipulation of algebra. Develop strategies to answer questions that require a number of skills and thinking outside the box. Take part in the UKMT Mathematics Challenge to work through problem solving

ASSESSMENT

All content is assessed in Year 13 and will combine different areas of mathematics. There are 3 examinations, each 2 hours in length.

Paper 1 and Paper 2 may contain questions on any topics from the Pure Mathematics content.

Paper 3 will contain questions on topics from the Statistics content in Section A and Mechanics content in Section B.

FUTURE OPPORTUNITIES

- University of Sheffield - Computer Science
- University of Leicester – Medicine
- Imperial College London – Biochemistry
- University of Warwick – Chemistry
- University of York - Physics

ENTRY REQUIREMENTS

Full entry requirements can be found on our website. Please ensure you check these as some courses have subject specific requirements that must be met in addition to the general entry requirements to join our Sixth Form.

