Edexcel A Level Mathematics

Vision Statement

The Maths Faculty sets its vision as: 'Teaching students Mathematics skills for life.'

Intent: Curriculum Intent – Edexcel A Level Mathematics

Our Edexcel A Level Mathematics curriculum is designed to foster analytical, resilient, and confident problem-solvers who can navigate, interpret, and model the world around them. Driven by our faculty vision—'Teaching students Mathematics skills for life'—the curriculum goes beyond functional competence, empowering students with the logical reasoning, abstract thinking, and quantitative literacy required for higher education, STEM careers, and everyday decision-making.

The curriculum is carefully sequenced to fulfil the overarching themes of the Edexcel specification—Mathematical Argument, Language and Proof, Mathematical Problem Solving, and Mathematical Modelling—integrating Pure Mathematics, Statistics, and Mechanics:

• Pure Mathematics: Students build a deep, interconnected understanding of algebra, coordinate geometry, calculus, trigonometry, vectors, and numerical methods. They develop fluency in mathematical rigour, learning to construct formal, precise proofs (including proof by deduction, exhaustion, and contradiction) and manipulate complex algebraic structures—the core foundation for quantitative reasoning in adult life.

• Statistics: Students learn to analyse, interpret, and critically evaluate real-world data in an increasingly data-driven society. By working directly with Edexcel's Large Data Set (LDS), probability distributions, and formal hypothesis testing, students gain vital data-literacy, risk-assessment, and research skills, learning to challenge bias, identify flawed sampling methods, and make evidence-based decisions.

• Mechanics: Students also apply mathematical principles to physical systems, studying kinematics, forces, friction, and moments. This component develops spatial awareness, structural intuition, and practical modelling capabilities, enabling students to analyse and predict movement and equilibrium in engineering, physics, and daily physical contexts.

Mathematical modelling is central to the course. Students learn to translate complex, unstructured real-world scenarios into mathematical frameworks, evaluate the validity of their assumptions, and refine their models. Edexcel's explicit focus on multi-step, problem solving questions requires students to construct multi-stage solutions, building intellectual resilience, adaptability, and the confidence to approach unfamiliar scenarios methodically— essential life skills for any future pathway.

Mathematical communication, explicit instruction in notation, and precise calculator strategies (leveraging advanced statistical and matrix functions) are embedded throughout. Retrieval practice, diagnostic testing, and regular exposure to unseen, synoptic exam questions ensure that core techniques are securely retained and fluidly applied across Pure and Applied contexts.

Why study Mathematics at The Sixth Form at Ridgewood?

- We have a strong team of A level teachers who have been teaching the subject for many years and have a history of excellent A level results
- Students at Ridgewood have said that the support they receive from the maths team is exemplary; we are always willing to spend time with students to help them if they are struggling
- We offer a weekly support session after school
- Maths is one of the most popular subjects and is essential for many higher education courses and careers
- In 2026, 76% of students on the course achieved a grade A*- C
  In 2026 38% of students achieved a grade A*/A

What topics will I study in this subject?

Topic	What this means
Pure Mathematics	The use and application of algebra, trigonometry, calculus and other core mathematical skills.
Mechanics	An applied unit that focuses on the real world problems such as kinematics, forces and moments.
Statistics	An applied unit that focuses on real life uses of mathematics to analyse data and trends focusing on topics such as sampling, hypothesis testing and probability.

What skills will I need in this subject?

Skill	What this skill involves in this subject
Use and apply standard techniques	• Select and correctly carry out routine procedures • Accurately recall facts, terminology and definitions
Reason, interpret and communicate mathematics	• Construct rigorous mathematical arguments • Make deduction and inferences • Assess the validity of mathematical arguments • Explain their reasoning • Use mathematical language and notation correctly
Solve problems within mathematics	• Translate problems in mathematical and non-mathematical contexts into mathematical processes • Interpret solutions to problems in their original context • Translate situation in context into mathematical models • Use mathematical models • Evaluate the outcomes of modelling in context

What will my lessons involve?

- Teaching in Maths consists of five one hour lessons each week.
- Lessons usually consist of teacher-led examples followed by questions set for students to complete as individuals or as groups when appropriate
- Questions set in lessons will include practising key skills, using written reasoning to fully justify answers, problem solving and using maths within unfamiliar contexts
- Lessons will also be used to complete improvements on set independent learning or exam papers

What will my independent study involve?

- You are set independent study to compliment what you have learnt in lesson and are expected to complete independent study on topics you need more practice on
- In general, students are set one hour of independent study for each hour of teaching
- You will be set prep learning for your independent study before each new topic
- This will recap prior learning required for the topic and ensure that lesson time is used effectively
- You will be given an end of topic to test to complete for independent study at the end of each topic
- Once the course content is complete, you will be given an exam paper each week to practise exam technique

How will I be assessed?

Percentage exam assessment: 100%	Percentage coursework assessment: 0%

Assessment	Details of assessment
	Three two hour exam papers at the end of Year 13. Each exam paper consists of 100 marks and will make up one third of your overall grade.
Paper 1 – Pure Mathematics 1	Pure mathematics covering proof, algebra and functions, coordinate geometry, sequences and series, trigonometry, exponentials and logarithms, differentiation, integration and numerical methods.
Paper 2 – Pure Mathematics 2	Further questions covering the full range of A Level Pure Mathematics, requiring students to apply and connect concepts from across the course.
Paper 3 – Statistics and Mechanics	A combined paper covering statistical methods such as probability, distributions and hypothesis testing, alongside mechanics including kinematics, forces, Newton's laws, moments and projectiles.

How do I know this is the right course for me?

- This course is suitable for students with a passion for maths, especially topics like algebra, graphs and trigonometry. This passion for maths should be combined with the dedication to work hard in the subject.
- Students should be organised, self-motivated learners who are willing to ask question both in and outside of lesson time.
- Students often find the jump from GCSE Maths to A level Maths challenging, so must be willing to seek support from teachers early on in the course if they are finding it difficult.
- A level Physics, Biology and Chemistry work well with A level Maths as they require similar skills such as selecting and carrying out procedures, and justifying answers with written reasoning.