



## Level 2 Further Mathematics

Course code: AQA 8365

This course is *not* part of the pathways process and would be studied during lunch time or after school depending on the timetable. If you are interested in studying Further Mathematics, Mr May will discuss this with you.

### Aims:

- Allows high achieving students to develop their higher order mathematical skills, particularly algebraic reasoning, in greater depth, thus preparing them fully to maximise their potential in further studies.
- It offers the opportunity for stretch and challenge that builds on the Key Stage 4 curriculum and is intended as an additional qualification to the GCSE Mathematics, rather than as a replacement. The content covers the areas of algebra and geometry, which are crucial to further study in the subject, in greater depth and breadth.
- This qualification places an emphasis on higher order technical proficiency, rigorous argument and problem-solving skills.

### Content:

1. Number – Product rule and surds
2. Algebra – Functions, expressions, graphs, equations, sequences and proof
3. Coordinate Geometry – Straight lines and circles
4. Calculus – Differentiation and its applications using maxima and minima
5. Matrix Transformations
6. Geometry – Trigonometry, Pythagoras, Trigonometric Equations, and Geometric Proof

### Curriculum Map

Year	Curriculum Overview	Assessment
Year 10	Topics in this section of the curriculum will extend the content covered in the GCSE Maths curriculum; investigating how the topic develops and builds on prior knowledge.	School Assessment Topic Assessments & Mock Exams
Year 11	Topics that carry forward into A Level, such as Coordinate Geometry, Calculus, and Matrix Transformations, will be covered with an emphasis on developing the mathematical rigour and thinking needed for further study.	School Assessment Topic Assessments & Mock Exams Final Level 2 Exams Non Calculator Paper 1h 45m Calculator Paper 1h 45m



### Assessment:

Students will sit two examinations at the end of Year 11, each contributing an equal weighting to the final grade: The following objectives will be assessed in one non-calculator and one calculator exam:

- AO1: Recall and use knowledge of the prescribed content for routine and multi-step procedures
- AO2: Apply mathematical reasoning, skills and knowledge to solve mathematical problems including rigorous justification and formal proof

A mix of question styles, from short, single-mark questions to multi-step problems. The mathematical demand increases as a student progresses through the paper.

### Extended Learning:

Students will have to complete extended learning once a week, for approximately 1 hour, to ensure content is consolidated and extended to a sufficient extent. This will largely take the form of extended written but will also include online tasks so that immediate feedback and accurate tracking can be included.

### Connection to the JTFS Approach

Whole School Theme	How does <i>Further Maths</i> support this?
STRIPE	STRIPE skills that enable students to behave mathematically to produce a higher standard of written work will be highlighted throughout the course.
STEAM	STEAM contexts and applications will be discussed in relevant topics such as calculus.
Literacy	Tier 3 vocabulary introduced and used throughout all topics with oracy skills developed to embed mathematical reasoning
Numeracy	Numeracy skills present in all lessons
SMSC, British Values and Citizenship	Historical development of mathematics discussed during topics