Maths & Further Maths

A-LEVELS, 2023/24

Why study A-level Mathematics?

- It is highly regarded by universities
  - both Mathematics and Further Mathematics are Russell Group Facilitating Subjects
  - a pre-requisite for most Science, Engineering, Computing and Economics courses (and of course all Mathematics courses!)

- It is a useful basis for many careers

- It is challenging and interesting
  - but it is DIFFICULT and you should be confident with your GCSE Mathematics and prepared to work hard from the very first day

A level Mathematics September 2023-June 2025

The exams seem to have been made more challenging since the pandemic

- 2022 Results
  - 70% A*-A grades
  - 82% A*-B grades

- 2019 Results
  - 80% A*-A grades
  - 88% A*-B grades

- You will study pure Mathematics, mechanics and statistics across both years with two teachers

- We follow the Pearson Edexcel specification

Mathematics
Course Structure & Assessment

- 7 lessons per week
  - Usually split 4/3
- All exams in May/June of U6th year
- Grades from A*-E

- Three 2 hour papers
  - Two Pure papers
  - One Mechanics and Statistics
- All papers worth 100 marks
- No non-calculator paper

Content

- Pure
  - Algebra, coordinate geometry, calculus, trigonometry, etc.
- Mechanics
  - Kinematics, statics
- Statistics
  - Measures and diagrams
  - Probability
  - Hypothesis testing

- Lots of problem-solving
  - Longer, less-structured questions
- Large Data set
  - Weather data
  - Contextualised application of statistical methods

Technology

- Increased emphasis on use of technology
  - Use of spreadsheets (large data set)
  - Use of graphing and modelling packages
  - Graphical calculators

- Calculators
  - Calculators with more functionality are required
  - The Casio fx-CG50 calculator is strongly recommended for everyone doing A-level Mathematics and Further Mathematics
  - Each calculator costs approximately £85

Entry Requirements

- Strong algebraic skills
  - Re-arranging formulae
  - Solving linear and quadratic equations
- Comfortable with applying Mathematics and solving problems
- Confident with the last few questions of an IGCSE paper

- Grade 8 is the minimum entry requirement for A-level Mathematics.
- This is not to deter pupils from doing Mathematics – it is a reflection of the difficulty of the course.

Further Mathematics Course Structure and Assessment

- 10 lessons per week split equally between two teachers

- All exams in May/June of Upper Sixth

- Grades from A*-E

- 4 equally weighted papers
  - 2 on Core Pure,1 Further Mechanics and 1 Further Statistics

- All papers 90 minutes long and worth 75 marks

A-level Further Mathematics

Pre-requisites

- Very confident with all elements of the GCSE/IGCSE course

- High grade 8 or a grade 9 (preferable) at GCSE/IGCSE

- You need to be a very able and confident mathematician to succeed; particularly during the second year of the course.

- 2022 Results
  - 89% A* - A
  - 100% A* - B

- 2019 Results
  - 63% A* - A
  - 94% A* - B

Core Curriculum Mathematics Options

- For pupils who are NOT taking A-level Mathematics or Further Mathematics

- Supports the mathematical content of other A-levels, e.g. Physics, Economics, Business, Geography, Chemistry, Biology.

- Level 3 Mathematics in Context (statistical analysis, graphs and diagrams)

- Ideally, you should have at least a grade 7 at IGCSE/GCSE Mathematics.

- Presentation and Q&A with NRC at 20:30 in EC4