Further Maths
OCR-A, H245

Sir Isaac Newton Sixth Form

What GCSE grade do I need to study further maths at Sir Isaac?
- You will need **GCSE maths** grade 8 or higher
- You will also need to study A level Maths

Key Yr12 topics
- Matrices
- Proof by Induction
- Complex numbers
- Roots of polynomials
- Vectors
- Work, Energy and Power
- Circular Motion
- Impulse and Momentum Algorithms
- Graphs & Networks
- Linear Programming
- Game Theory

Key Yr13 topics
- De Moivre's Theorem
- Maclaurin Series
- Differential Equations
- Centre of Mass
- Improper Integrals
- Polar Coordinates
- Hyperbolic Functions
- Oblique Impacts
- Springs and Hooke's Law
- Simplex Method
- Further Algorithms

Pure Core 1	1 hr 30 mins	25%
Pure Core 2	1 hr 30 mins	25%
Further Maths Mechanics	1 hr 30 mins	25%
Further Maths Discrete	1 hr 30 mins	25%

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Frequently Asked Questions

Q: Do I need to study mathematics if I study further mathematics?

A: Yes, mathematics and further mathematics are two separate A-levels and further mathematics builds on the knowledge that you learn in single mathematics.

Q: Will I be in mathematics classes with students who don't study further mathematics?

A: Yes, your single mathematics lessons will have students who study further mathematics and students who don't study further mathematics. This means that you will learn content in maths and further maths A-levels at the same time (known as in parallel) and take both sets of exams at the end of year 13.

Q: Should I study further mathematics?

A: This comes down to your love of mathematics! If you study maths and further maths you will study 10 hours a week of mathematics, this means you need to have a real enjoyment in the subject to stay motivated.

Q: What university courses require further maths?

A: Further maths is required to study maths at the more prestigious universities, but there are many good universities that will accept students who have studied maths but not further maths. Some universities (mainly the most prestigious ones again) prefer further maths for engineering, physics or other subjects with a high maths content.

Q: I would like to study mathematics at Cambridge or Oxford, will you support me with this?

A: Applying to Cambridge and Oxford to study mathematics means that you will need to take entrance exams. We have a full programme of study that starts at the beginning of year 12 so you'll be fully prepared to take these. We also enter the senior mathematics challenge and the team mathematics challenge each year which helps students develop their problem-solving skills.