

# Guilsborough Academy Sixth Form

## KS5 CURRICULUM

**Course Title:** A Level Further Mathematics

**Examination Board:** Edexcel



**Entry Requirements:** GCSE Mathematics Grade A\*/A, and to have passed the departmental entry test. You must also be studying A Level Mathematics.

**Assessment:** 6 equally weighted units each with a 1h 30 minute exam

These are selected from Further Pure Maths 1, Further Pure Maths 2, Further Pure Maths 3, Decision Maths 1, Decision Maths 2, Mechanics 1, Mechanics 2, and Mechanics 3

### Is This Course Right For Me?

If you have thoroughly enjoyed Mathematics thus far and have a good understanding of algebraic techniques then Further mathematics may be for you. In this course you will have the opportunity to explore familiar Core Mathematics in great detail as well as meeting some higher level topics for the first time. Following the Further Mathematics course will also allow you to study two additional areas of applied Mathematics namely Mechanics and Decision Mathematics.

If you are thinking of studying Mathematics or related degree at University then Further Mathematics is required for some courses and advisable in many others.

### Unit Contents:

**Further Pure Maths Includes:** Matrices, Complex Numbers, Proof, Conic Sections, Differential Equations, McLaurin and Taylor Series, Polar Coordinates, vectors, Differentiation and Integration

**Decision Maths Includes:** Graph Theory, Game Theory, Network Theory. Linear Programming. Allocation and Assignment Problems, and Dynamic Programming.

**Mechanics Includes:** Modelling, Statics, Kinematics, Moments, Vectors, Centres of mass, Collisions, Circular Motion, Elastic strings

### Progression:

This course is suitable for those who would like to continue to study Mathematics at university, or pursue a career in a range of different areas including Physics and general science, Engineering, Banking and Finance, Teaching.

### Example of university courses and grades required

- Imperial College London BSc Mathematics A\* A\* Mathematics and Further Mathematics A in another subject.
- University of Bristol BSc Mathematics AAA including Mathematics and Further Mathematics.
- University of Manchester BEng Mechanical Engineering AAB including Mathematics.

### Further Information Contact:

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