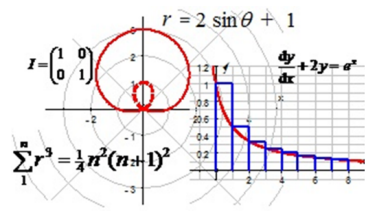


AS/A Level Further Mathematics



Entry Criteria:

- You will need to achieve the pathway criteria, please see the prospectus for further information
- You will need to achieve a Grade 7 or above in GCSE Mathematics

Coursework/Examination Requirements:

AS Assessment	Two examinations worth 50% each
A Level Assessment	Four examinations worth 25% each

Awarding Body/Specifications: Edexcel

Advanced Level (A Level): Further Mathematics builds on the knowledge of A Level Mathematics and involves the further study of Pure Mathematics as well as the study of two optional units chosen from: Further Pure Mathematics, Statistics, Mechanics or Decision. Further Mathematics provides a greater challenge for those students who demonstrate a talent for Mathematics. For degree level study of Mathematics and mathematically-related subjects, it is a distinct advantage. At some of the top universities, A Level Further Mathematics is a requirement to study this course. **The following units will be covered on this course:**

Units Covered

Pure Mathematics – Compulsory Content

Topics studied include proof, complex numbers, matrices, further algebra and functions, further calculus, further vectors, polar coordinates, hyperbolic functions and differential equations.

Students will complete two of the four following units:

Further Pure – Optional Unit

Topics include further trigonometry, further calculus, further differential equations, coordinate systems, further vectors, further numerical methods and inequalities.

Statistics – Optional Unit

Topics include discrete probability distributions, Poisson and binomial distributions, geometric and negative binomial distributions, hypothesis testing, central limit theorem, chi squared tests, probability generating functions and quality of tests.

Mechanics – Optional Unit

Topics include momentum and impulse, energy and power, elastic strings and springs and elastic energy and elastic collisions in one and two dimensions.

Decision – Optional Unit

Topics studied include algorithms and graph theory, algorithms on graphs, critical path analysis and linear programming.

Advanced Subsidiary (AS): If you choose to study this subject for one year only you will be awarded the AS Level. You will cover half of the compulsory pure content and half of the content from two optional units and sit public examination in Year 12.

Progression: As stated for A Level Mathematics, although, in some cases, Further Mathematics provides easier access to the top companies and top courses at Higher Education.

Opportunities: In addition to the opportunities offered in A Level Mathematics, the school is a member of the Advanced Mathematics Support Programme. There are also opportunities to attend enrichment activities at both the University of East Anglia and Cambridge University when they arise.