

A-level Further Maths

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Overview

A-level Further Mathematics is designed to broaden and deepen the mathematical knowledge and skills developed when studying A-level Mathematics. It may be studied alongside or after taking A level Mathematics. Studying both A-level Mathematics and A-level Further Mathematics provides a foundation for further studies in any Science or Maths-based course, ranging from Computer Science, Medical Sciences, and Psychology to Statistics, Management and Actuarial Science.

Key Facts

Start Dates:

- 5 April 2021 (only in Brighton)
- 6 September 2021
- 3 January 2022

Colleges:

- Bournemouth
- Brighton
- London
- Oxford

Entry level:

- Academic: Completed 10 years of schooling (GCSE or equivalent)
- English: IELTS 5.5 or equivalent

Minimum age:

- 16

Length:

- 2 Academic Years (3 terms)
- We also offer a One-Year A-level in Further Maths and an entry from Year 12.

Lessons:

- Average 7 hours per week for each A-level subject (plus homework and private study)

Class size:

- 4-10

Learning outcomes

- Gain UK national university entrance qualification
- Raise English to university level
- Develop study skills required at degree level
- Develop specialist subject expertise

Course content and structure

The following syllabus outline is based on AQA exam board content. Please note that exam boards may vary from college to college.

Year 1

Further Pure Mathematics

- Coordinate systems (part 1)
- Inequalities (part 1)
- Further Trigonometry
- Further vectors (part 1)

Further Statistics

- Poisson and binomial distributions (part 1)
- Discrete probability distributions
- Poisson and binomial distributions (part 2)
- Chi squared tests (part 1)

Year 2

Further Pure Mathematics

- Further vectors (part 2)
- Coordinate systems (part 2)
- Inequalities (part 2)
- Further numerical methods
- Further calculus
- Further differential equations

Further Statistics

- Geometric and negative binomial distributions
- Hypothesis testing

- The Central Limit Theorem
- Chi squared tests (part 2)
- Probability generating functions
- Quality of tests

Typical A-level subject combinations with Further Maths

- Further Maths, Maths, Physics and Chemistry
- Further Maths, Maths, Chemistry and Biology
- Further Maths, Maths, Physics and Chemistry
- Further Maths, Maths, Economics, Geography
- Further Maths, Maths, Physics and Economics

Sample enrichment activities

- Bletchley Park visit
- The Big Bang fair, NEC Birmingham
- UK Maths Challenge

- Astronomy Club
- Business Enterprise
- Science Club

Sample academic calendar (2021-2022)

Year 1

September

- 6th: term starts
- Student induction

October

- 18 – 22nd: half term
- Progress tests

November

- University fairs and talks

December

- 10th: term ends
- End of term exams

January

- 3rd: term starts

February

- 10th – 11th: half term
- Progress tests
- University fairs

March

- End of term exams
- 18th: term ends

April

- 4th: term starts

May

- Progress tests

June

- Exams
- 10th: term ends

Year 2

September

- 7th Sept: term starts

October

- 19th – 25th: half term
- 15th October: UCAS deadline (Medicine)
- Progress tests

November

- University fairs and talks

December

- 11th: term ends

- End of term exams

January

- 4th: term starts
- 15th January: UCAS deadline (other subjects)

February

- 12 – 13th: half term
- Progress tests

March

- 19th: term ends
- Mock exams

April

- 5th: term starts
- Progress tests

May

- Final exams

June

- 11th June: term ends

Recommended reading

Below is a list of books which may help you prepare for your studies prior to arrival. Please note that additional books, and online resources such as websites and journals will be shared once you begin your course.

- Proofiness: How You're Being Fooled by the Numbers by Charles Seife
- The Mathematical Experience by Philip J. Davis
- The Drunkard's Walk by Leonard Mlodin
- Oxford Student's Mathematics by Oxford Dictionaries
- Oxford Content and Language Support: Mathematics by Caroline Meyrick and Judy Roberts

Degree progression

Further Maths has wide applications in industry, business, finance, science, technology and many others.

There are a number of degree courses where A-level Further Maths is favoured — including Chemistry, Maths, Medicine and some Engineering programmes.

Sample alumni progression

Shujie Feng

- Maths/Further Maths/Physics
- University of Edinburgh (Maths)

Van Khoa Hoang

- Maths/Further Maths/Physics
- University of Manchester (Artificial Intelligence)

Taisei Tsuruoka

- Maths/Further Maths/Chemistry
- University of Manchester (Maths)

Yancheng Xu

- Maths/Further Maths/Physics/Chemistry
- Imperial College London (Mechanical Engineering)

Timofei Fedotov

- Further Maths/Maths/Biology/Physics
- University of Oxford (Engineering)