

A Level Mathematics AQA (A Level Mathematics Spec)

Overview: A Level Mathematics at our UTC is designed to develop a deep understanding of mathematical concepts and their applications. Students benefit from a practical approach to learning, with an emphasis on problem-solving and critical thinking. Our industry partnerships provide opportunities to see how mathematics is applied in real-world scenarios, from engineering and technology to data analysis and beyond.

Why Study A Level Maths?

Mathematics is fundamental to understanding and solving complex problems in a wide range of fields, including engineering, physics, computer science, and economics. It teaches students to think logically and to approach problems systematically. This course is ideal for those who enjoy working with numbers, patterns, and abstract concepts. It provides a strong foundation for further studies in STEM subjects and is highly valued by universities and employers alike.

Potential Career Pathways:

A Level Mathematics is a stepping stone to a variety of degree courses, such as:-

- Mathematics
- Physics
- Engineering
- Economics
- Computer Science.

It is also an asset in fields like finance, data science, actuarial science, and teaching. A strong background in mathematics can open doors to rewarding careers in research, technology, and business analytics.

Topics Covered:

- *Pure Mathematics:*
 - *A: Proof*
 - *B: Algebra and Functions*
 - *C: Coordinate Geometry in the (x, y) Plane*
 - *D: Sequences and Series*
 - *E: Trigonometry*
 - *F: Exponentials and Logarithms*
 - *G: Differentiation*
 - *H: Integration*
 - *I: Numerical Methods*
- *J: Vectors*
- *Statistics:*
 - *K: Statistical Sampling*
 - *L: Data Presentation and Interpretation*
 - *M: Probability*
 - *N: Statistical Distributions*
 - *O: Statistical Hypothesis Testing*
- *Mechanics:*
 - *P: Quantities and Units in Mechanics*
 - *Q: Kinematics*
 - *R: Forces and Newton's Laws*
 - *S: Moments*

Assessment:

- Paper 1: Assesses any content from Pure Mathematics (A-I):
 - Written exam: 2 hours
 - 100 marks
 - 33⅓% of A Level
- Paper 2: Assesses Pure Mathematics (A-I) and Mechanics (J, P-S):
 - Written exam: 2 hours
 - 100 marks
 - 33⅓% of A Level
- Paper 3: Assesses Pure Mathematics (A-I) and Statistics (K-O):
 - Written exam: 2 hours
 - 100 marks
 - 33⅓% of A Level

Entry Requirements:

- Grade 6 in GCSE Mathematics
- Grade 5 in GCSE English Language

