



MATHS

DEPARTMENT

Confidence and ambition through maths

Maths for life and future careers

We want all of our students to be both competent and confident in the maths that is necessary for so many parts of everyday life, for financial literacy and for almost every form of employment.

We want our students to have the mathematical skills necessary to obtain and succeed in the best scientific, technical, and engineering careers.

The beauty of mathematical thinking

Our curriculum aims not just to promote the enjoyment of the subject, but to instil a genuine love of maths and an appreciation of the beauty and elegance that exists within the subject and the solutions it offers to life's big questions and problems.

Curiosity and resilience

The study of maths helps students grow in themselves and acquire key skills and character traits. It develops curiosity, critical thinking, and problem-solving skills. It requires creativity in seeking solutions, following a line of enquiry, developing an argument, and looking for relationships, patterns and generalisations. The study of maths supports the development of tenacity and resilience as students, confident in their own abilities, form personal connections by approaching routine and non-routine problems with increasing sophistication...without fear of failure.

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Deeper understanding step by step

NUMBER • RATIO • ALGEBRA • GEOMETRY • STATISTICS

A spiral curriculum from Year 10

Our curriculum is spiral in nature. Students are exposed to, and taught about, all the key strands (number, ratio, algebra, geometry, and statistics) from the beginning of year 10. The teaching is designed to ensure that all students are secure in the basics within each of these topics through repetition and practice which promotes fluency and automaticity. As the students develop in confidence, each of the topics is then re-visited in increasing depth and with problems of increasing complexity. As students progress through the course, they are supported in looking at these complex problems, breaking them down into a series of simpler steps and applying the skills and knowledge that they have acquired through the study of the separate strands and disciplines.

BUILD FLUENCY

Practice and repetition

REVISIT AND CONNECT

Increasing depth

REASON AND APPLY

More complex problems

Real problems with a clear purpose

Lincoln UTC's maths students understand the importance, purpose, and value of the subject. You won't hear a Lincoln UTC student ask, "When will I ever need to know this?" The problems that we set our students are carefully and deliberately selected so that the relevance is clear. The questions that we pose are explicitly linked to real world, industry, and employment related contexts and scenarios. The questions and problems are also used to support and underpin the students' learning in their other subjects, particularly in science and in engineering.

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Qualifications and assessment

Pearson Edexcel GCSE Mathematics (1MA1)

Level 1 / Level 2 GCSE (9-1) • Higher tier

Topic area	Weighting
Number	12-18%
Algebra	27-33%
Ratio, proportion and rates of change	17-23%
Geometry and measures	17-23%
Statistics and probability	12-18%

Paper	Calculator use	Duration	Weighting
1	Non-calculator	1 hour 30 minutes	33.33%
2	Calculator allowed	1 hour 30 minutes	33.33%
3	Calculator allowed	1 hour 30 minutes	33.33%

OCR GCSE Mathematics (J560)

GCSE (9-1) • Foundation tier • Grades 5 to 1

Paper / code	Calculator use	Duration	Marks / weight
1 • J560/01	Permitted	1 hour 30 minutes	100 / 33⅓%
2 • J560/02	Not permitted	1 hour 30 minutes	100 / 33⅓%
3 • J560/03	Permitted	1 hour 30 minutes	100 / 33⅓%