



# Nether Stowe School

*Inspiring, Empowering and Achieving Together*

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## A Level Mathematics

### Exam Board - Edexcel

#### Course Summary

A level Mathematics is often thought of as a subject of complicated calculations. However, calculations form only a small part of this rigorous discipline which requires clear thinking and the development of specific ideas into generalised solutions. A level Mathematics gives you the opportunity to study topics such as geometry, calculus, and trigonometry (pure mathematics) and to use these ideas within the 'applied' topics such as mechanics and statistics.

#### Modules

Pure topics:

- Proof
- Algebra and functions
- Co-ordinate geometry in the  $(x,y)$  plane
- Sequences and series
- Trigonometry
- Exponentials and logarithms
- Differentiation
- Integration
- Numerical methods
- Vectors

Statistics topics:

- Statistical sampling
- Data presentation and interpretation
- Probability
- Statistical distributions
- Statistical hypothesis testing

Mechanics topics:

- Quantities and units in mechanics
- Kinematics
- Forces and Newton's laws
- Moments

#### Career Opportunities

Whether it is conserving endangered species, designing computer games, or helping solve crimes, people with a mathematical qualification are welcome in any career. The creativity and logical thinking skills you develop in mathematics are important in our rapidly changing world. Mathematics is also a strong indicator of problem-solving skills and self-discipline. Mathematics is a requirement for many degree courses including mathematics, physics, engineering, economics, computer science and accountancy. It is desirable for any science degree, and for medicine, social sciences, geography, geology, psychology, sport, and business studies degrees.

Mathematics is a highly regarded facilitating subject which will be an asset if you wish to apply to Oxbridge or other Russell group universities. Mathematics is also a valued A level for higher level apprenticeships in engineering, accounting, ICT, or business.

**Complementing subjects;** Physics, Further Mathematics.

#### Assessment

Paper 1 (2 hours) Pure Mathematics

Paper 2 (2 hours) Pure Mathematics

Paper 3 (2 hours) Mechanics and Statistics

