FURTHER MATHEMATICS

Examination Board

- Edexcel

A2 course background

Consists of 4 examinations. Each paper is a I hour 30 minute written examination that is 25% of the final mark. Each examination requires the use of a calculator.

Paper 1: Core Pure Mathematics 1
Paper 2: Core Pure Mathematics 2

Content overview
Proof, Complex numbers, Matrices, Further algebra and functions, Further calculus, Further vectors, Polar coordinates, Hyperbolic functions, Differential equations.

Paper 3: Further Mathematics Option 1 – Further Statistics 1

Content overview
Discrete probability distributions, Poisson and binomial distributions, Chi squared tests, Geometric and negative binomial distributions, Hypothesis testing, Central limit theorem, Probability generating functions, Quality of tests.

Paper 4: Further Mathematics Option 2 – Decision Mathematics 1

Content overview
Algorithms and graph theory, Algorithms on graphs, critical path analysis, Linear programming

Useful websites / reading materials

- https://vle.mathswatch.co.uk/vle/ (login needed, this will be provided by the maths teacher).
- www.integralmaths.org (login needed, this will be provided by the maths teacher).

To enjoy the magic of mathematics, along with developing your knowledge of the wider mathematical environment, the below books are useful.

What the Numbers Say: A Field Guide to Mastering Our Numerical World (Derrick Niederman and David Boyum)

Alex's Adventures in Numberland
(Alex Bellos)

What is Mathematics?: An Elementary Approach to Ideas and Methods (Oxford paperbacks) (Richard Courant, Herbert Robbins, Ian Stewart)

The Tiger That Isn't: Seeing Through a World of Numbers (Andrew Dilnot)

Euler : The Master of Us All (William Dunham)

Why Do Buses Come in Threes?: The Hidden Mathematics of Everyday Life (Rob Eastaway and Jeremy Wyndham)

The Cartoon Guide to Statistics (Larry Gonick & Woolcott Smith)

Thinking Mathematically (J.Mason, L.Burton, K.Stacey)

Mathematician's Delight (Dover Science Books) (W.W. Sawyer)

Fermat's Last Theorem: The story of a riddle that confounded the world's greatest minds for 358 years (Simon Singh)

Professor Stewart's Cabinet of Mathematical Curiosities (Ian Stewart)

Recommended study

- Complete all tasks and exam-style questions from the course book.
- Complete tasks on 'mathswatch' and integral maths and any other tasks as set by the class teacher.
- Approximately 3-5 hours per week to include homework tasks and independent study.