

# KS5 CURRICULUM: YEAR 12 A LEVEL FURTHER MATHS

**Overview** – Mathematics covers three areas of study:

Pure Maths - An extension of the techniques and knowledge gained at GCSE. Developing algebraic and manipulative skills, graph drawing and trigonometry.

New concepts are also introduced and developed including logarithms and calculus.

Mechanics - The study of statics and moving bodies including forces and energy.

Statistics - Presentation and analysis of data. Probability and probability distributions.

	Focus / Topic	Knowledge & Skills	Assessment
<b>Autumn 1</b>	Pure Chapters 1 – 3	Complex numbers, Argand Diagrams, Series	Topic Testing on all chapters throughout half term
<b>Autumn 2</b>	Pure Chapters 4 – 6	Roots of polynomials, Volumes of revolution, Matrices	Topic Testing on all chapters throughout half term
<b>Spring 1</b>	Pure Chapters 7 – 9	Linear Transformations, Proof by Induction, Vectors	Topic Testing on all chapters throughout half term
<b>Spring 2</b>	Statistics Chapters 1, 2, 4	Discrete random variables, Poisson Distributions, Hypothesis testing	Topic Testing on all chapters throughout half term
<b>Summer 1</b>	Statistics Chapter 6 Mechanics Chapters 1, 2	Chi Squared tests Momentum and impulse, Work, Energy and Power	Topic Testing on all chapters throughout half term
<b>Summer 2</b>	Mechanics Chapter 4 Revision	Elastic Collisions in one dimension	End of Year Assessment

## **Further Information**

Exam board – Edexcel – the specification can be found here:

<https://qualifications.pearson.com/content/dam/pdf/A%20Level/Mathematics/2017/specification-and-sample-assesment/a-level-l3-further-mathematics-specification.pdf>

All students require a Casio Classwiz calculator for this course: [https://www.amazon.co.uk/Casio-FX-991EX-S-UH-Scientific-Calculator-Resolution/dp/B0719FWP3X/ref=sr\\_1\\_1?keywords=casio+classwiz+calculator&qid=1562138320&s=gateway&sr=8-1](https://www.amazon.co.uk/Casio-FX-991EX-S-UH-Scientific-Calculator-Resolution/dp/B0719FWP3X/ref=sr_1_1?keywords=casio+classwiz+calculator&qid=1562138320&s=gateway&sr=8-1)

We use the Edexcel textbooks for this course:

<https://www.pearsonschoolsandfecolleges.co.uk/secondary/Mathematics/16plus/EdexcelASandAlevelMathematics2017/EdexcelASandAlevelMathematics2017.aspx>