

PCHS Curriculum Information

Course Title: A Level Further Maths	Exam Board: AQA	Specification Code: 7367
How will students be assessed? A level Further Mathematics is a linear course which is assessed with three examinations. Each exam is marked out of 100 and lasts for 2 hours. The papers are all calculator papers and are equally weighted, each being worth 33% of the final mark. Each paper has a mix of question styles varying from short single mark questions to longer unstructured questions. Paper one and paper two examine Pure Mathematical methods only, whilst paper three examines topics from Statistics with either Mechanics or Discrete, depending on the needs of the cohort. The A level syllabus extends and deepens Mathematical understanding and requires students to demonstrate their skills and knowledge through the application of problem-solving techniques and with the use of clear, precise and appropriate mathematical language.		

KEY CONTENT
Half Term 1 <u>Vectors and matrices:</u> Vectors – equations of planes, cross product Matrices – determinants of 3×3 , solving simultaneous equations in 3 unknowns, factorising Eigenvectors and eigenvalues <u>Further algebra and graphs</u> <u>Differential equations:</u> First order differential equations Second order differential equations
Half Term 2 <u>Further calculus:</u> Improper integrals Inverse trigonometric functions Trig substitution <u>Conics:</u> Composite transformations <u>Polar coordinates:</u> Area enclosed by a polar curve <u>Series and limits:</u> The Maclaurin series The method of differences using partial fractions Limits

Half Term 3Numerical methods:

Numerical Integration

Numerical Differential Equation

Complex numbers:

de Moivre's theorem

Further Mechanics:

Kinematics in two dimensions

Equilibrium and resolving

Statics and dynamics

Moments

Half Term 4Hyperbolic functions:

Further Hyperbolic Functions

Inverse Hyperbolic Functions

Further Integration:

General Integration and Limits

Reduction Formulae

Arc Length and Surface Area.

Further Statistics:

Further probability

Statistical distributions

Statistical hypothesis testing

Half Term 5

Exam preparation

Half Term 6