

Overview:

We prepare students for the OCR two year Further Mathematics A Level course – Year 12 students study the Year 1 content. Students build on previous GCSE knowledge and this necessitates sequencing and promotes retrieval. Students study A Level Mathematics alongside A Level Further Mathematics in the same class. The content is based on Pure Mathematics, Statistics and Mechanics. Students build knowledge via teacher-led and student-led learning and apply it to problem solving scenarios based on exam criteria.

Careers in the Curriculum:

The topics covered will highlight links to careers in Finance (Hedgefund Manager, Trader, Actuary, Auditor, Financial Analyst, Risk Management)

Term	Topic	Assessment
Aut1	<p>A Level</p> <ul style="list-style-type: none"> Pure: Surds and Indices, Straight Lines, Differentiation, Quadratics, Graphs, Polynomials, Circles Statistics: Data Handling, Standard Deviation <p>Further Math</p> <ul style="list-style-type: none"> Pure: Introduction to Complex Numbers 	<ul style="list-style-type: none"> Written end of topic reviews - exam question based Aiming High 1 summative written assessment
Aut2	<p>A Level & Further Maths</p> <ul style="list-style-type: none"> Pure: Integration, Trigonometry, Logs and Exponentials, Binomial expansion, Vectors Statistics: Hypothesis testing 	<ul style="list-style-type: none"> Written end of topic reviews- exam question based Aiming High 2 summative written assessment
Spr1	<p>A Level</p> <ul style="list-style-type: none"> Mechanics: Kinematics, Newton’s Laws of Motion <p>Further Maths</p> <ul style="list-style-type: none"> Pure: Matrices, Vectors Statistics: Permutations and Combinations, Discrete random variables, Discrete probability distributions Mechanics: Work, Energy, Power 	<ul style="list-style-type: none"> Written end of topic reviews- exam question based
Spr2	<p>A Level</p> <ul style="list-style-type: none"> Pure: Proof <p>Further Maths</p> <ul style="list-style-type: none"> Pure: Roots of polynomial equations, Proof by Induction Statistics: Correlation and regression, Chi squared tests Mechanics: Momentum, Circular motion-horizontal, Dimensional analysis 	<ul style="list-style-type: none"> Written end of topic reviews- exam question based
Sum1	<p>A Level</p> <ul style="list-style-type: none"> Pure: Radians, Further Trigonometry, Functions, Modulus Function, Rational Functions, Further Calculus, Parametric equations, <p>Further Maths</p> <ul style="list-style-type: none"> Pure: Introduction to Complex Numbers 	<ul style="list-style-type: none"> Written end of topic reviews- exam question based
Sum2	<p>A Level</p> <p>Consolidation, revision and preparation for PPEs</p> <ul style="list-style-type: none"> Pure: Differential equations, Sequences and Series Mechanics: Kinematics in 2d <p>Further Maths</p> <p>Consolidation, revision and preparation for PPE</p>	<ul style="list-style-type: none"> Written end of topic reviews PPEs -full OCR AS papers: 2x90 minute AS maths papers 3x75 minute AS further maths papers



Overview:

We prepare students for the OCR two year Further Mathematics A Level course – Year 13 students study the Year 2 content. Students build on the previous learning in Year 12 and complete the full A Level Maths content by October of Year 13. The content is based on advanced Pure Mathematics, Statistics and Mechanics. Students build knowledge via teacher-led and student-led learning and apply it to problem solving scenarios based on exam criteria.

Careers in the Curriculum:

The topics covered will highlight links to careers in Technology (Software writer, Software Developer, Web Developer, App Developer, CyberSecurity and Computer Programming)

Term	Topic	Assessment
Aut1	A Level <ul style="list-style-type: none"> Pure: Differential equations, Sequences and Series Statistics: Conditional probability, Normal distribution, Hypothesis testing Mechanics: Kinematics in 2d. Projectiles, Force as a vector, Forces in context, Moments Further Maths Partial fractions <ul style="list-style-type: none"> Pure: Integration 	<ul style="list-style-type: none"> Written end of topic reviews- exam question based
Aut2	A Level and Further Maths <ul style="list-style-type: none"> Pure: Systems of linear equations, Series, Proof by induction, Vectors Statistics: Continuous random variables, Linear combinations, Sampling Mechanics: Work & Energy-variable forces, Momentum-oblique impact 	<ul style="list-style-type: none"> Written end of topic reviews- exam question based Weekly OCR past exam paper for A level maths
Spr1	A Level and Further Maths <ul style="list-style-type: none"> Pure: Hyperbolic functions, Inverse Trig and hyperbolic functions, Differential equations Statistics: Normal distributions, Theoretical distributions Mechanics: Circular motion-vertical, Centres of mass, Statics Consolidation, revision and preparation for PPEs	<ul style="list-style-type: none"> Written end of topic reviews- exam question based PPE summative assessment- full OCR A level maths (3 papers) Further maths: Pure Core, applied (2 papers) Weekly OCR past exam paper for A level maths
Spr2	A Level and Further Maths <ul style="list-style-type: none"> Pure: Polar Coordinates, Maclaurin Series, Complex numbers Statistics: Non parametric tests Mechanics: Differential equations, SHM 	<ul style="list-style-type: none"> Written end of topic reviews- exam question based Lesson by lesson OCR past exam paper for A level Maths and Further Maths
Sum1	A Level Consolidation, revision and preparation for public exams Further Maths Consolidation, revision and preparation for public exams	<ul style="list-style-type: none"> Lesson by lesson OCR past exam paper for A level Maths and Further Maths