

Curriculum Overview – FURTHER MATHEMATICS:

Key Stage 4 – GCSE Exam Board: AQA Mathematics 8300 (standard maths) and AQA Certificate Level 2 Further Mathematics 8365

Standard GCSE subjects in italics, Level 2 Further Maths topics in bold

Year 10	Year 11
<i>Numbers, Factors and Multiples</i>	<i>Real Life Graphs</i>
<i>Fractions, Decimals and Percentages</i>	<i>Gradients and Rates of Change</i>
<i>Rounding and Bounds</i>	<i>Pre-calculus and Area under a Curve</i>
<i>Ratio and Proportion</i>	Functions
<i>Indices, Standard Form and Surds</i>	Factor Theorem
<i>Probability</i>	Calculus
<i>Collecting and Representing Data</i>	Linear and Quadratic Equations
<i>Statistical Measures</i>	Matrix Multiplication and Transformations
<i>Basic Algebra Review and Linear Equations</i>	Surds
<i>Sequences</i>	Index Laws
<i>Numerical Methods</i>	Algebraic Fractions
<i>Growth and Decay</i>	Coordinate Geometry
<i>Quadratic Expressions</i>	Inequalities
<i>Rearranging Formulae</i>	Trigonometry and Pythagoras
<i>Inequalities</i>	Sequences
<i>Coordinates and Linear Graphs</i>	Manipulation and proof
<i>Further Equations and Graphs</i>	
<i>Simultaneous Equations</i>	
<i>Angles, Scale Diagrams and Bearings</i>	
<i>Construction and Loci</i>	
<i>Congruence and Similarity</i>	
<i>2D Representations of 3D Shapes</i>	
<i>Transformations</i>	
<i>Circle Theorems</i>	
<i>Pythagoras' Theorem and Basic Trigonometry</i>	



<i>Sine and Cosine Rules</i>	
<i>Direct and Inverse Proportion</i>	
<i>Vectors</i>	
<i>Sketching Graphs</i>	
<i>Transforming Functions</i>	
<i>Algebraic Fractions</i>	
<i>Measures</i>	
<i>Perimeter and Area</i>	
<i>Volume</i>	

Textbook Used: AQA Certificate in Further Mathematics (Hodder Education, ISBN: 978-1444181128)



Key Stage 5 – A Level Exam Board: OCR B: MEI

Year 12	Year 13
Pure Mathematics: Proof, Complex Numbers, Matrices, Vectors, Algebra, Series	Pure Mathematics: Further Proof, Complex Numbers, Matrices, Vectors, Algebra, Series. Calculus, Polar Coordinates, Hyperbolic functions, Differential equations.
Statistics: Discrete random Variables, Bivariate data, Chi-squared tests	Mechanics: Dimensional analysis, Forces, Work, Energy and Power, Momentum and Impulse, Centre of mass
Algorithms: Algorithms, Networks, Linear Programming	

Textbook Used: There is no single textbook that covers the content of Further Maths. Instead we ask all students to buy a subscription the MEI Integral Resources currently about £5 per year. Details of how to subscribe will be provided in September of each year.