



Summary of Further Information

A Level Maths and Further Maths

Edexcel's guidance for Maths and Further Maths states that:

“The aim should still be to cover all specification content in teaching and learning.”

A broad topic list for each exam has been given. This does not discount any topic from the exams, but some topics may be helpful to target revision in the days leading up to each exam.

Otherwise, this information does not change any of the approaches in finishing and revising the full content.

The following pages gives the full lists of what Excel have provided.



Exam content list for A Level Maths Exams

Paper 9MA0/01 Pure Mathematics 1

- Formal proof
- The factor theorem
- Understand and use graphs of functions
- Use intersection points of graphs to solve equations
- Transformations of a curve
- Use of functions in modelling
- The coordinate geometry of the circle
- Arithmetic sequences and series
- Differentiation: stationary points, minima. Radian measure
- Trigonometric identities and equations
- Trigonometric functions and identities: area under a curve
- Exponentials: Solving equations, rate of change
- Maximum point; iteration
- Integration as a limit
- Methods of integration
- Use vectors to solve a problem in pure mathematics

Paper 9MA0/02 Pure Mathematics 2

- Formal proof
- The modulus of a linear function
- Understand and use function notation
- The binomial expansion
- Sequence generated by an iterative formula
- Geometric sequences and series; trigonometric identities
- Use of a trigonometric function
- The function a^x and its graph
- Differentiation; roots of equations
- Differentiation from first principles
- Find maximum and minimum points; Newton- Raphson method
- Differentiation of curves defined parametrically
- Area under a curve
- Solution of a first order differential equation; partial fractions
- The trapezium rule
- Use vectors to solve problems in pure mathematics

Paper 9MA0/31 Statistics

- Regression lines (change of variable); hypothesis test for correlation
- Measures of central tendency and variation
- Probability and Venn diagrams
- Discrete probability distributions; normal approximation
- Normal distribution
- Hypothesis testing

Paper 9MA0/32 Mechanics

- Constant acceleration in 2-D and Newton's 2nd law in 2-D using vectors
- Variable acceleration, language of kinematics
- Projectiles, constant acceleration
- Dynamics, resolving forces, friction, equilibrium
- Statics, moments, resolving forces, friction



Exam content list for A Level Further Maths Exams

Paper 9FM0/01 Further Mathematics Core Pure 1

- Complex numbers: Multiplication and division, conjugates
- Complex numbers: Roots of polynomial equations, Argand diagram
- De Moivre's theorem; Volumes of revolution
- Matrices: Inverse of a 3×3 matrix, singular and non-singular
- Method of differences for summation of finite series
- Improper integrals; Hyperbolic functions
- Integration; Partial fractions
- Inverse hyperbolic functions
- Solution of first order differential equations
- Solution of second order non-homogenous differential equations

Paper 9FM0/02 Further Mathematics Core Pure 2

- Proof by induction; Use matrices to represent linear transformations in 2-D
- Complex numbers: Multiplication and division
- Complex numbers; Addition and subtraction; simple loci in the Argand diagram
- Matrices: Solution of three simultaneous equations
- The relationship between roots and coefficients of polynomial equations
- Differentiate inverse trigonometric functions
- Vectors; Equation of a straight line, scalar product, perpendicular distance from a point to a plane
- Polar coordinates: Area enclosed by a curve, tangents
- Differentiation of hyperbolic functions; Maclaurin series

Paper 9FM0/3C Further Mechanics 1

- Impulse-momentum in 1-D
- Impulse-momentum in 2-D
- Power
- Work-energy
- Hooke's law, work energy
- Successive direct impacts
- Oblique impact of two spheres
- Successive oblique impacts

Paper 9FM0/3D Decision Mathematics 1

- Bin packing
- Sorts; Flow charts
- Dijkstra's algorithm; Shortest inspection route around a network.
- Floyd's algorithm; Nearest neighbour algorithm
- Critical Path Analysis including Gantt charts and resource histograms
- Formulating and using Simplex to solve a linear programme
- Big-M method