Anglo Chinese

A-LEVEL & AS MATHEMATICS SUBJECTS
Edexcel Foundation

INITIAL REQUIREMENTS: Highest Level GCSE grade A* or A.

THE SYLLABUS: There are 17 modules from which students complete six for the award of an A-level certificate and three for the award of an AS certificate.

C1 Core Pure Mathematics	Core Maths (common to all boards)
C2 Core Pure Mathematics	
C3 Core Pure Mathematics	
C4 Core Pure Mathematics	
FP1 Further Pure Mathematics	Further Pure
FP2 Further Pure Mathematics	
FP3 Further Pure Mathematics	
M1 Mechanics	Basic Mechanics
M2 Mechanics	
M3 Mechanics	Further Mechanics
M4 Mechanics	
M5 Mechanics	
S1 Statistics	Statistics & Probability
S2 Statistics	
S3 Statistics	
D1 Decision Maths	Decision Maths
D2 Decision Maths	

Examinations will be available twice each year, in January and in June. Two modules will be examined at each session with a break between papers. The examination for each module consists of one 1½ hour paper of about eight questions and all questions are to be attempted.

SYLLABUSES OFFERED:

Classes Available

1) **A-LEVEL MATHEMATICS** - C1 C2 C3 C4 M1 S1
AS PURE MATHEMATICS - C1 C2 C3
Suitable for students requiring a broad mathematical knowledge.

2) **A-LEVEL MATHEMATICS** - C1 C2 C3 C4 M1 M2
AS PURE MATHEMATICS - C1 C2 C3
A good all round course, suitable to accompany Physics A-level.

3) **A-LEVEL PURE MATHEMATICS** - C1 C2 C3 C4 FP1 FP2
AS PURE MATHEMATICS - C1 C2 C3
Suitable to accompany Arts, Economics and some Science A-levels.

4) **A-LEVEL FURTHER MATHEMATICS** - FP1 FP2 FP3 M2 M3 S2 (a sequel to 1)
- FP1 FP2 FP3 M3 M4 M5 (a sequel to 2).
It involves more advanced Mathematics. Counts as a second A-level Mathematics subject.

5) **A-LEVEL STATISTICS** - S1 S2 S3 S4 S5 S6 (AQA) No projects required.
AS STATISTICS - S1 S2 S3
Suitable to accompany Economics, Geography, Biology and is also an acceptable alternative to Maths in courses such as Medicine, Dentistry and Pharmacy.

Students taking an 18 month maths course will take C1 C2 C3 C4 M1 S1 or
C1 C2 C3 C4 M1 M2 and FP1 FP2 FP3 M3 M4 M5 for Further Maths

PTO

Summary of the specification content:

Pure Mathematics

C1	Algebra and functions; coordinate geometry in the (x, y) plane; sequences and series; differentiation; integration.
C2	Algebra and functions; coordinate geometry in the (x, y) plane; sequences and series; trigonometry; exponentials and logarithms; differentiation; integration.
C3	Algebra and functions; trigonometry; exponentials and logarithms; differentiation; numerical methods.
C4	Algebra and functions; coordinate geometry in the (x, y) plane; sequences and series; differentiation; integration; vectors.
FP1	Inequalities; series; complex numbers; numerical solution of equations; first order differential equations; second order differential equations; polar coordinates.
FP2	Coordinate systems; hyperbolic functions; differentiation; integration.
FP3	Complex numbers; matrix algebra; vectors; Maclaurin and Taylor series; numerical methods; proof.

Mechanics

M1	Mathematical models in mechanics; vectors in mechanics; kinematics of a particle moving in a straight line; dynamics of a particle moving in a straight line or plane; statics of a particle; moments.
M2	Kinematics of a particle moving in a straight line or plane; centres of mass; work and energy; collisions; statics of rigid bodies.
M3	Further kinematics; elastic strings and springs; further dynamics; motion in a circle; statics of rigid bodies.
M4	Relative motion; elastic collisions in two dimensions; further motion of particles in one dimension; stability.
M5	Applications of vectors in mechanics; variable mass; moments of inertia of a rigid body; rotation of a rigid body about a fixed smooth axis

Statistics

S1	Mathematical models in probability and statistics; representation and summary of data; probability; correlation and regression; discrete random variables; discrete distributions; the Normal distribution.
S2	The Binomial and Poisson distributions; continuous random variables; continuous distributions; samples; hypothesis tests.
S3	Combinations of random variables; sampling; estimation, confidence intervals and tests; goodness of fit and contingency tables; regression and correlation.