Mathematics

The International A Level in Mathematics is divided into two years (AS & A2). During these two years the student will study a total of six units: four of them compulsory and two others that are optional. A student aiming for only AS Level must sit two compulsory units and one of the optional ones.

Level	Compulsory Units	Optional Units (Take 1 each year)
AS	Pure 1 & Pure 2	• Mechanics 1 - 2 • Statistics 1 - 2 • Decision Maths 1
A2	Pure 3 & Pure 4	

Compulsory Units			
Pure 1 (AS)	**Pure 2 (AS)**	**Pure 3 (A2)**	**Pure 4 (A2)**
• Algebra and functions • Coordinate geometry in the (x, y) plane • Trigonometry • Differentiation • Integration.	• Proof • Algebra and functions • Coordinate geometry in the (*x*, *y*) plane • Sequences and serie • Trigonometry • Exponentials and logarithms • Differentiation • Integration	• Algebra and functions • Trigonometry • Exponentials and logarithms • Differentiation • Numerical methods	• Proof • Algebra and functions • Coordinate geometry in the (*x*, *y*) plane • Sequences and series • Differentiation • Integration • Vectors

Assessment: Examination
Prerequisites: A good knowledge of the GCSE specification is assumed for Pure 1. The knowledge of Pure 2, Pure 3 and Pure 4 is built from the previous unit.

Mathematics

Optional Units		
Mechanics	**Statistics**	**Decision Mathematics**
• Mathematical models • Vectors in mechanics • Kinematics moving on lines and planes • Dynamics • Statics of a particle and rigid bodies • Moments • Centres of mass • Work and energy • Collisions • Elastic strings and springs • Further Dynamics and Kinematics	• Mathematical models in probability and statistics • Representation and summary of data • Discrete and random variables and distributions • Correlation and regression • Samples • Hypothesis tests • Estimation • Confidence intervals and tests • Goodness of fit and contingency tables	• Algorithms • Algorithms on graphs • The route inspection problem • Critical path analysis • Linear programming • Matching • Transportation problems • Game theory • Flows in networks

Assessment: Examination