THE BRITISH SCHOOL OF NANJING
A NORD ANGLIA EDUCATION SCHOOL

KS5 Curriculum Map 2021 - 2022 Subject: A-Level Maths

Term	Year 12 AS Maths	Year 13 A2 Maths
1.1	**Pure 1:** Algebraic ExpressionsQuadratics Equations and Inequalities Graphs and TransformationsStraight Line Graphs Trigonometric Ratios Radians	**Pure 3:** Algebraic Methods Functions and Graphs Trigonometric Functions Trigonometric Addition Formulae
1.2	**Pure 1 & 2:** Differentiation Integration **Pure 2:** Algebraic Methods Coordinate Geometry in (x,y) Plane Exponentials and Logarithms Binomial Expansion	**Pure 3:** Exponentials and LogarithmsDifferentiation Integration Numerical Methods
2.1	**Pure 2:** Sequences and Series Trigonometric Identities and Equations	**Pure 4:** Proof Partial Fractions
		Mechanics 1: Mathematical Models in Mechanics Constant Acceleration Vectors in Mechanics

AO1Recall, select and use their knowledge of mathematical facts, concepts and techniques in a variety of contexts.
AO2Construct rigorous mathematical arguments and proofs through use of precise statements, logical deduction and inference and by the manipulation of mathematical expressions, including the construction of extended arguments for handling substantial problems presented in unstructured form.
AO3Recall, select and use their knowledge of standard mathematical models to represent situations in the real world; recognise and understand given representations involving standard models; present and interpret results from such models in terms of the original situation, including discussion of the assumptions made and refinement of such models.
AO4Comprehend translations of common realistic contexts into mathematics; use the results of calculations to make predictions, or comment on the context; and, where appropriate, read critically and comprehend longer mathematical arguments or examples of applications.
AO5Use contemporary calculator technology and other permitted resources (such as formulae booklets or statistical tables) accurately and efficiently; understand when not to use such technology, and its limitations.Give answers to appropriate accuracy.

KS5 Curriculum Map 2021 - 2022 Subject: A Level Maths (continued)

Term	Year 12 AS Maths	Year 13 A2 Maths
2.2	**Statistics 1:** Mathematical Models Measures of Location Measures of Spread Representation of Data Correlation and Regression Probability	**Pure 4:** Coordinate Geometry in the (x,y) plane Binomial Expansion Differentiation **Mechanics 1:** Dynamics of a Particle Moving in a Straight Line Forces and Friction Momentum of a Particle
3.1	**Statistics 1:** Discrete Random Variables Normal Distribution Exam Revision	**Pure 4:** Differentiation Vectors **Mechanics 1:** Statics of a Particle Moments
3.2	Consolidation & Examination practice	Consolidation & Examination practice

AO1Recall, select and use their knowledge of mathematical facts, concepts and techniques in a variety of contexts.
AO2Construct rigorous mathematical arguments and proofs through use of precise statements, logical deduction and inference and by the manipulation of mathematical expressions, including the construction of extended arguments for handling substantial problems presented in unstructured form.
AO3Recall, select and use their knowledge of standard mathematical models to represent situations in the real world; recognise and understand given representations involving standard models; present and interpret results from such models in terms of the original situation, including discussion of the assumptions made and refinement of such models.
AO4Comprehend translations of common realistic contexts into mathematics; use the results of calculations to make predictions, or comment on the context; and, where appropriate, read critically and comprehend longer mathematical arguments or examples of applications.
AO5Use contemporary calculator technology and other permitted resources (such as formulae booklets or statistical tables) accurately and efficiently; understand when not to use such technology, and its limitations.Give answers to appropriate accuracy.

KS5 Curriculum Map 2021 - 2022 Subject: Further Maths A-Level

Term	Year 12 AS Further Maths		Year 13 A2 Further Maths	
1.1	**Further Pure 1:** Complex Numbers Roots of Quadratic Equations Numerical Solutions of Equations Coordinate Systems		**Further Pure 2:** Inequalities Series Complex Numbers Further Argand Diagrams	**Further Pure 3:** Hyperbolic functions Further co-ordinate systems Further calculus Vectors Further Matrices
1.2	**Further Pure 1:** Matrices Transformations Using Matrices Series Proof		**Further Pure 2:** First-Order Differential Equations Second-Order Differential Equations Maclaurin and Taylor Series Polar Coordinates	**Further Pure 3:** Hyperbolic functions Further co-ordinate systems Further calculus Vectors Further Matrices
2.1	**Decision 1:** Algorithms Graphs and Networks Algorithms on Graphs	**Statistics 2:** Binomial Distribution Poisson Distribution Approximations Continuous Random Variables	**Statistics 3:** Combinations of random variables Sampling Estimation and confidence intervals Goodnessof fit, contingency tables Regression and correlation	**Mechanics 2:** Projectiles Variable Acceleration Centres of Mass
2.2	**Decision 1:** Route Inspection The Travelling Salesman Problem Critical Path Analysis Linear Programming	**Statistics 2:** Continuous Uniform Distribution Sampling and SamplingDistributions Hypothesis Testing	**Statistics 3:** Combinations of random variables Sampling Estimation and confidence intervals Goodness of fit, contingency tables Regression and correlation	**Mechanics 2:** Work and Energy Impulses and Collisions Statics of Rigid Bodies
3.1/3.2	Consolidation & Examination practice	Consolidation & Examination practice	Consolidation & Examinationpractice	Consolidation & Examination practice

AO1Recall, select and use their knowledge of mathematical facts, concepts and techniques in a variety of contexts.
AO2Construct rigorous mathematical arguments and proofs through use of precise statements, logical deduction and inference and by the manipulation of mathematical expressions, including the construction of extended arguments for handling substantial problems presented in unstructured form.
AO3Recall, select and use their knowledge of standard mathematical models to represent situations in the real world; recognise and understand given representations involving standard models; present and interpret results from such models in terms of the original situation, including discussion of the assumptions made and refinement of such models.
AO4Comprehend translations of common realistic contexts into mathematics; use the results of calculations to make predictions, or comment on the context; and, where appropriate, read critically and comprehend longer mathematical arguments or examples of applications.
AO5Use contemporary calculator technology and other permitted resources (such as formulae booklets or statistical tables) accurately and efficiently; understand when not to use such technology, and its limitations.Give answers to appropriate accuracy.