UoB School Curriculum Outline – MATHEMATICS 2017/2018

	Term 1a	Term 1b	Term 2a	Term 2b	Term 3a	Term 3b
Yr 7	Number 1 – sequences and the study of patterns ***History of Maths project*** Shape 1 – area and perimeter **Number 2 – negative numbers** Calculator skills and rounding	Number 2 – arithmetic with fractions and decimals **Algebra 1 – expressions and word equations** Two way tables and Venn diagrams	Data 1 – collection and representation ***Handling data project*** Algebra 2 – graphs **Number 3 - BODMAS**	Number 4 – powers and primes. Factors, multiples etc **Data 2 – probability** Arithmetic recap	Algebra 3 – equations **Shape 2 – volume** Shape 3 – construction and compass skills ***Islamic Art project*** Data 3 – interpreting real life graphs	Number 5 – fractions, decimals, percentages **Shape 4: scale drawing** Inequalities
Yr 8	Number 1: Ratio and proportion, simplifying ratios and links to fractions **Shape 1: similar shapes, congruent triangles and scale factor** Shape 2: Intro to trigonometry	Algebra 1 – simplifying expressions, multiplying brackets and factorising expressions **Data 1 – analysing bivariate data and plotting scatter graphs** Shape 2 – Pythagoras' theorem ***Egyptian Fractions project***	Algebra 2 – rearranging formulae **Using and applying 1– compound measures** Number 2 – rounding with trial and improvement Shape 2 – arc lengths and sector areas	Data 2 – probability and Venn diagrams **Shape 3 – angles, bearings and maps** ***Design a probability maze project*** Algebra 3 – plotting graphs (linear and non-linear) Interpreting gradients as rates of change	Number 3: direct and indirect proportion **Algebra 4 - straight line graphs (y = mx + c)** Number 4: fractions decimals and percentages (recurring decimals?)	Number 5 – Percentages (percentage change, simple interest and financial applications) **Algebra 4: inequalities** Number 6 – powers and indices
Yr 9	Algebra 1 - Simultaneous equations **Number 1 – standard form** Shape 1 – geometrical reasoning	Data 1 – representing and analysing bivariate data **Shape 2 - locus** Number 2 – recurring decimals ***Undecided project***	Algebra 2 – sequences and nth term rules **Using and applying – proof** Number 3 – laws of indices ***Undecided project***	Algebra 3 – multiplying brackets **Shape 3 – trigonometry**	Number 4 – rounding, trial and improvement **Data 2 – averages** Shape 4 – transformations ***Transformation project***	Number 5 – ratio and proportion **Algebra 4 – Matrix arithmetic** Shape 5 – arc lengths and sector areas

Yr 12 Mathematics Edexcel (2017) **Core** Mechanics/Statistics	**Algebra and number recap and extension.** **Arithmetic Sequences** Representing and summarising data; averages, dispersion etc	**Coordinate geometry.** **Differentiation 1** **Integration 1** Probability	**Algebra 2 – polynomials** **Circle equations** **Trigonometry 1 – GCSE extension** Correlation and regression	**Trigonometry 2 – radians and solving trig equations** Random variables and probability distributions	**Logarithms** **Differentiation 2- stationary points** The normal distribution	**Integration 2 – area** **Functions** Vectors
Yr 13 Mathematics Edexcel (2008 series) **Core** Mechanics	**Algebra and functions** **Trigonometry 3 – identities** **Logarithms 2 – the natural logarithm** Recap vectors SUVAT equations (kinematics)	**Differentiation 3 – product rule, etc** **Numerical methods** **Partial fractions** Dynamics and Statics 1	**Binomial expansion,** **Differentiation 4 – differential equations** Moments	**Integration 3** **Parametric equations** Dynamics and Statics 2	**Vectors – scalar product etc**	

Yr 12 Edexcel (2017) *Maths for Further Maths* **Teacher 1 Core maths** Teacher 2 Applied maths	**Algebra and number recap and extension.** **Arithmetic Sequences** **Coordinate geometry** **Sequences** Representing and summarising data; averages, dispersion etc Probability	**Differentiation 1** **Integration 1** **Algebra 2 – polynomials** **Circle equations** **Trigonometry 1 – GCSE extension** Correlation and regression Random variables Normal distribution Vectors	**Trigonometry 2 – radians and solving trig equations** **Logarithms** **Differentiation 2- stationary points** **Integration 2 – area** SUVAT equations (kinematics) Dynamics and Statics 1	**Complex numbers** **Numerical solutions** Moments Statics 2 Algorithms introduction	**Coordinate systems** **Matrix algebra** **Series** Graphs and networks Algorithms on networks	**Proof by induction** **Critical path analysis** **Matchings** **Logarithms 2** Route inspection Algebra and functions
Yr 13 Edexcel (2008 series) *Maths for Further Maths*	**Trigonometry 3 – identities** **Differentiation 3 – product rule, etc** **Numerical methods** **Partial fractions**	**Binomial expansion,** **Differentiation 4 – differential equations** **Integration 3** **Parametric equations**	**Vectors – scalar product etc** **Complex Numbers 2 – De Moivre** **Differential equations 1**	**Differential equations 2** **Maclauren and Taylor expansion** **Hyperbolic functions** Statics of rigid bodies	**Coordinate systems** **Integration 4** Polar coordinates Vectors 2 – vector product etc	**Matrix algebra 2** Vectors 2 continued

Teacher 1 **C3, C4, FP2, FP3** Teacher 2 S2, M2, FP2, FP3	Binomial and Poisson distributions Continuous random variables	Continuous distributions Sampling and hypothesis tests Projectile motion	Moments and centres of mass Work, energy, Power Collisions	Inequalities Series 2		