Key Stage 5 Curriculum Map 2020-21

Year 12 Term 1

Subject: Mathematics		Year: 12	
Focus/Topic	**UAE Links**	**HPL Links**	**Home Learning / Reading**
• Orientation and Induction		Empathetic - Confident	
• Baseline Test		Linking – Connection finding	
• Recap of GCSE		Analysing – Critical or logical thinking	Corbett Maths – Grade 7 – 9 content
• Expanding Brackets, Surds & Indices – rationalising denominators, use of the laws of indices, solving equations involving variable as a power. Assessed Homework, Surds, Quadratics, Discriminant		Hard working – Resilience	Chapter 1 – AQA AS Level textbook
• Quadratic Polynomials & Equations – factorizing, use of quadratic formula, completing the square, sketching quadratic graphs, use of the discriminant to identify types of solutions/roots of quadratic functions Assessment Test Surds and Quadratics		Linking – Big picture thinking	Chapter 2 – AQA AS Level textbook
• Algebraic Division – division process, Remainder and Factor theorems to enable factorising cubic expressions and equations and hence to solve equatons of higher order than 2.		Analysing – Complex and multi step problem solving	Chapter 3 - AQA AS Level textbook
• Function & Graphs – sketching curves, shape, location, intercepts with axes, using a sketch to help solve quadratic inequalities Assessed Homework Functions and Graphs		Agile - Enquiring	Chapter 4 - AQA AS Level textbook
Mid Term Break			
• Function & Graphs - sketching to help identify and illustrate transformations of functions, translations, reflections and stretches, use trig graphs as an example Assessment Test Functions and Graphs		Analysing – Critical or logical thinking	Chapter 4 - AQA AS Level textbook
• Coordinate Geometry – Distance between 2 points, coordinates of the midpoint of a line segment, gradient of a line segment, equation of a straight		Linking – Seeing alternative perspectives	Chapter 5 - AQA AS Level textbook

line, parallel lines and gradient, perpendicular lines and gradient, coordinates of points of intersection between straight lines			
• Differentiation – working with polynomials, rational powers of the variable – gradient – tangents and normal Mechanics – displacement, speed, velocity and acceleration Assessed homework Coordinate Geometry, Differentiation		Creating – Flexible thinking	Chapter 6 and 16 - AQA AS Level textbook
• Differentiation – increasing, decreasing functions, Stationary points, Maximum and minimum points • Mechanics – Velocity/time graphs Test on coordinate geometry, differentiation, mechanics		Realising - Automaticity	Chapter 6 and 16 - AQA AS Level textbook
• Integration – working with polynomials, indefinite and definite integrals, area under a curve • Mechanics – motion in a straight line with constant acceleration – horizontal motion, SUVAT equations		Realising – Speed and accuracy	Chapter 7 and 17 - AQA AS Level textbook
• Integration – compound areas, numerical integration using the trapezium rule • Mechanics - vertical motion under gravity, g = 9.8 ms-2 and accuracy of answers Assessed homework Integration and SUVAT		Linking – Seeing alternative perspectives	Chapter 7 and 17 - AQA AS Level textbook
• Sequences and Series – Recurrence relations and Arithmetic series – summation of series • Mechanics – motion in a straight line with variable acceleration, differentiation and integration Test on Integration, and Mechanics		Analysing – Critical or logical thinking	Chapter 8 and 17 - AQA AS Level textbook
Winter Break			