Key Stage 5 Curriculum Map 2020-21

Term 2

Subject: Mathematics		Year: 12	
Focus/Topic	**UAE Links**	**HPL Links**	**Home Learning / Reading**
• Integration using partial fractions, odd and even powers of sin, cos and tan. Integration to find volumes of revolution Introduce first order differential equations with variables separable • Introduce the Normal Probability distribution, notation and parameters Standardised Normal random variable using the table to find probabilities • Vectors in 3D, I j and k unit vectors, variable acceleration problems in vector form using differentiation and integration		Creating – Flexible thinking	Chapter 6 and 13 - AQA A2 Level textbook Dr Frost home learning
• Numerical Methods – change of sign to find root in an interval, Iteration formula and its use to find roots of equations approximate values • Finding probabilities and finding Z and X values using the Normal tables • Using variable acceleration with F = ma and reminder of resolving and using 2nd Law in problem solving		Realising - Automaticity	Chapter 8 and 13 - AQA A2 Level textbook
• Finding μ or σ or both in Normal distribution • Projectiles splitting the motion to horizontal and vertical components, terminology and notation		Realising – Speed and accuracy	Chapter 8 and 13 - AQA A2 Level textbook Dr Frost home learning
• Sum of Independent Normal Random Variables • Equation of trajectory and Range for projectiles • Approximate areas under curves using the mid ordinate rule and Simpsons Rule		Linking – Seeing alternative perspectives	Chapter 7 and 13 - AQA A2 Level textbook Dr Frost home learning
• Mock exams		Hard working – Resilience	Revision
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Mid Term Break			
• Exponential Distribution pdf, mean and variance, link with continuous probability distributions		Analysing – Critical or logical thinking	Chapter 8 and 14 - AQA A2 Level textbook Dr Frost home learning

• Work Energy Power, Calculation of work done against resisting force			
• Link the exponential distribution to the Poisson, No memory property • Power is rate at which work is being done (driving force D) P = Dv - Energy (Potential, Kinetic)		Analysing – Complex and multi step problem solving	Chapter 8 and 14 - AQA A2 Level textbook Dr Frost home learning
• Vectors, notation and arithmetic, position vectors in 3D, parallel vectors, unit vectors, magnitude of a vector • Estimation, biased and unbiased estimators for population parameters • Work Energy principle and conservation of mechanical energy		Agile - Enquiring	Chapter 9 and 14 - AQA A2 Level textbook Dr Frost home learning
• Properties of a line joining two points, vector equation of a straight line, intersecting lines • The sample mean and sampling distribution of mean • Uniform circular motion, angular velocity and acceleration, notation, motion in a horizontal circle		Analysing – Critical or logical thinking	Chapter 9 and 14 - AQA A2 Level textbook Dr Frost home learning
Spring Break			