Key Stage 5 Curriculum Map 2020 - 2021

Term 2

Subject: Mathematics		Year: 13
Focus/Topic	**UAE Links**	**Home Learning / Reading**
- Integration using partial fractions, odd and even powers of sin, cos and tan - 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		**See relevant textbook chapters**
- Integration to find volumes of revolution - Introduce first order differential equations with variables - 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		**See relevant textbook chapters**
MOCK EXAMS		
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- Variables separable and finding the constant of integration - Finding μ or σ or both in Normal distribution - Projectiles splitting the motion to horizontal and vertical components, terminology and notation		**See relevant textbook chapters**
- Forming differential equations, growth and decay, naturally occurring - Differential equations and their solution - Sum of Independent Normal Random Variables - Equation of trajectory and Range for projectiles		**See relevant textbook chapters**
	Mid Term Break	
- Numerical Methods – change of sign to find root in an interval, - Iteration formula and its use to find roots of equations approximate values - Exponential Distribution pdf, mean and variance, link with continuous probability distributions - Work Energy Power, Calculation of work done against resisting force		**See relevant textbook chapters**
- Approximate areas under curves using the mid ordinate rule and Simpsons Rule - 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)		**See relevant textbook chapters**
- 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		**See relevant textbook chapters**

• 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		**See relevant textbook chapters**
• Scalar product of 2 vectors, angle between vectors, perpendicular vectors • Central Limit theorem • The conical pendulum		**See relevant textbook chapters**
Spring Break		