جيمس مدرسة فاوندرز دبي GEMS Founders School DUBAI

Year 13

Subject Mathematics A Level Pure and Mecanics

High Performance Learning

Term	Week	Date	Focus	Summary	Learning Outcomes
Term 2	15	02/01/23	Integration	Further Integration techniques	Explore partial fractions, odd and even powers of trigonometric functions and volumes of revolution
	16	09/01/23	Mechanics	Vectors in 3D	Explore vectors using i,j and k notation and solve problems using calculus
	17	16/01/23	Differential equations	1st order differential equations	Explore forming and solving 1st order differential equations with separable variables
	18	23/01/23	Numerical Methods	Estimating using non-calculus methods	Explore change of sign to find root in an interval, Iteration formula and its use to find roots of equations approximate values, estimating areas under curves using mid-ordinate and Simpson's rule.
	19	30/01/23	Mechanics	Forces	Explore using F=ma with variable accelreation and projectile motion
	20	06/02/23			Explore the equation of a trajectory and the range for projectiles
		13/02/23	School Break Half Term February		
	21	20/02/23	Vectors	Vector algebra	Explore notation and arithmetic, position vectors in 3D, parallel vectors, unit vectors, magnitude of a vector
	22	27/02/23			Explore properties of a line joining two points, vector equation of a straight line, intersecting lines
	23	06/03/23	Mechanics	Work, Energy and Power	Explore calculation of work done against resisting force
	24	13/03/23			Explore power as rate at which work is being done (driving force D) P = Dv - Energy(Potential, Kinetic) and the Work Energy principle and conservation of mechanical energy.
	25	20/03/23		Uniform Circular Motion	Explore angular velocity and acceleration, notation, motion in a horizontal circle