Curriculum Map

Subject: Applied Maths **Year Group: 13**

	Autumn 1/Autumn 2	Autumn 2	Autumn 2/Spring 1	Spring 2	Summer
Content	**Unit 1 Regression, correlation and hypothesis testing.** **-Exponential models** **Measuring correlation** **Hypothesis testing for zero correlation** **Unit 2 Conditional probability** **Set notation** **Conditional probability** **Conditional probabilities in Venn diagrams** **Probability formulae** **Tree diagrams**	**Unit 3 The normal distribution** **The normal distribution** **Finding probabilities for normal distributions** **The inverse normal distribution function** **The standard normal distribution** **Finding p and** **Approximating a binomial distribution** **Hypothesis testing with the normal distribution**	**Unit 4 Moments** **Moments** **Resultant moments** **Equilibrium** **Centres of mass** **Tilting** **Unit 5 Forces and friction** **Resolving forces** **Inclined planes** **Friction**	**Unit 6 Projectiles** **Horizontal projection** **Horizontal and vertical components** **Projection at any angle** **Projectile motion formulae**	**Unit 7 Applications of forces** **Static particles** **Modelling with statics** **Friction and static particles** **Static rigid bodies** **Dynamics and inclined planes** **Connected particles** **Unit 8 Further kinematics** **Vectors in kinematics** **Vector methods with projectiles**
Skills	Students will… **Unit 1:** Understand exponential models in bivariate data. Use a change of variable to estimate coefficients in an exponential model. Understand and calculate the product moment correlation coefficient.	Students will… **Unit 3:** Understand the normal distribution. Find percentage points on a standard normal curve. Calculate values including unknown means and/or standard deviations for a normal	Students will… **Unit 4:** Calculate the turning effect of a force applied to a rigid body Calculate the resultant moment of a set of forces acting on a rigid body Solve problems involving uniform rods in equilibrium Solve problems involving non-uniform rods Solve problems involving rods on the point of tilting	Students will… **Unit 6:** Model motion under gravity for an object projected horizontally Resolve velocity into components Solve problems involving particles projected at an angle Derive the formulae for time of flight,	Students will… **Unit 7:** Find an unknown force when a system is in equilibrium Solve statics problems involving weight, tension and pulleys pages Solve problems involving limiting equilibrium

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	Carry out a hypothesis test for zero correlation. **Unit 2:** Use set notation in probability, understand conditional probability, Solve conditional probability problems using two-way tables and Venn diagrams. Use probability formulae solve problems, Solve conditional probability using tree diagrams.	distribution Approximate a binomial distribution using a normal distribution Carry out a hypothesis test for the mean of a normal distribution	**Unit 5:** Resolve forces into components Use the triangle law to find a resultant force Solve problems involving smooth or rough inclined planes Understand friction and the coefficient of friction. Use $F \leqslant \mu R$	range and greatest height, and the equation of the path of a projectile.	and involving motion on rough or smooth inclined planes Solve problems involving connected particles that require the resolution of forces. **Unit 8:** Work with vectors for displacement, velocity and acceleration when using the vector equations of motion Use calculus with functions of time involving variable acceleration Differentiate and integrate vectors with respect to time.
Key questions	*Edexcel AS Applied Course book* Mixed exercises 1 Page 12 Mixed exercises 2 Page 34	Mixed exercises 3 Page 60	Mixed exercises 4 Page 85 Mixed exercises 5 Page 105	Mixed exercises 6 Page 125	Mixed exercises 7 Page 154 Mixed exercises 8 Page 177
Assessment	Topic assessments	**Mock PPE1** Statistics and Mechanics (1 (AS level) - 1 hour 30 minutes	Topic assessments	**Mock PPE2** Statistics and Mechanics (A2 level) - 1 hour 30 minutes	Final A2 Exams Students sit A2 papers on dates as prescribed by exam boards. Statistics and Mechanics Paper 3(2 hours)

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Literacy/ Numeracy/ SMSC/ Character	Understanding and interpreting calculations used in mathematical modelling problems set in real-life contexts. Carrying out algebraic proofs of mathematical identities or formulae used in solving problems. Aspiration, Resilience, Initiative, Confidence				