



Curriculum Journey 2025-2025

Subject: Mathematics

Exam board:

Year 13	Half Term 1	Half term 2	Half Term 3	Half Term 4	Half term 5	Half Term 6
Topic	Pure - Modulus function, sequences and series, binomial expansion Applied – Moments, regression and hypotheses testing, conditional probability	Pure – Radian measure, trigonometric graphs, trigonometric functions, manipulating identities, solving trigonometric equations	Pure – Parametric equations, differentiation Applied – Projectiles, further kinematics	Pure – Differentiation, integration, numerical methods, vectors Applied – Normal distribution	Consolidation and revision	
Vocabulary	<ol style="list-style-type: none"> 1. Modulus 2. Transformation 3. Sequence 4. Series 5. Sigma notation 6. Binomial expansion 7. Moment 8. Regression 9. Null hypothesis 10. Conditional probability 	<ol style="list-style-type: none"> 1. Radian 2. Unit circle 3. Periodic 4. Amplitude 5. Identity 6. Equation 7. Sinusoidal 8. Cosine 9. Tangent 10. General solution 	<ol style="list-style-type: none"> 1. Parametric 2. Cartesian 3. Derivative 4. Chain rule 5. Tangent 6. Projectile 7. Trajectory 8. Acceleration 9. Displacement 10. Variable acceleration 	<ol style="list-style-type: none"> 1. Differentiation 2. Integration 3. Approximation 4. Iteration 5. Trapezium rule 6. Vector 7. Dot product 8. Normal distribution 9. Standard deviation 10. Mean 		



Assessment	Milestones	Milestones	Milestones	Milestones		
Links to prior learning	<ul style="list-style-type: none"> <input type="checkbox"/> Understanding of modulus and transformations from Year 12 <input type="checkbox"/> Arithmetic and geometric sequences and summation notation <input type="checkbox"/> Expanding brackets and earlier binomial expressions <input type="checkbox"/> Foundation in hypothesis testing and probability <input type="checkbox"/> Use of forces and turning moments from mechanics <input type="checkbox"/> Scatter graphs and correlation from statistics 	<ul style="list-style-type: none"> <input type="checkbox"/> Familiarity with degrees, angles in triangles, and trigonometric ratios (GCSE and Year 12) <input type="checkbox"/> Graph transformations and plotting periodic functions <input type="checkbox"/> Solving trigonometric equations over restricted domains <input type="checkbox"/> Using Pythagorean identities and double-angle formulas <input type="checkbox"/> Application of radians in circular measure 	<ul style="list-style-type: none"> <input type="checkbox"/> Understanding Cartesian equations and coordinate geometry <input type="checkbox"/> Differentiation techniques from Year 12 (product, quotient, and chain rule) <input type="checkbox"/> Using parametric equations to describe motion or curves <input type="checkbox"/> Basic kinematics (suvat equations, velocity-time graphs) <input type="checkbox"/> Vector notation and motion in two dimensions 	<ul style="list-style-type: none"> <input type="checkbox"/> Differentiation and integration from Year 12 (core rules and applications) <input type="checkbox"/> Numerical estimation methods and gradient approximations <input type="checkbox"/> Algebraic and geometric work with vectors <input type="checkbox"/> Use of the standard normal distribution and interpretation of probability <input type="checkbox"/> Problem solving using rates of change, area under a curve, and kinematics 		
Catholic Social Teaching	Reinforces the value of seeking truth and fairness through mathematical	Reflects the beauty, order, and consistency of creation. Encourages	Encourages responsible application of knowledge to understand and	Emphasises thoughtful approximation and responsible estimation,		



	<p>modelling, interpretation, and reasoning. Conditional probability and hypothesis testing model real-life decision-making with integrity and responsibility.</p>	<p>rigorous reasoning, clarity of thought, and appreciation for mathematical structure — values that promote respect for truth and harmony.</p>	<p>model the physical world. Emphasises clarity, structure, and accountability in interpreting motion and change — promoting good stewardship of scientific understanding.</p>	<p>recognising the value of accuracy, truthfulness, and humility in decision-making. Promotes care in how we model, simplify, and communicate complex ideas.</p>		
<p>Careers and Personal Development links</p>	<p>Applies to fields such as data science, economics, engineering, psychology, architecture, and mechanical design. Develops skills in predictive analysis, logic, critical thinking, and interpretation of complex systems.</p>	<p>Essential in fields such as engineering, physics, architecture, navigation, astronomy, and sound/light modelling. Strengthens abstract thinking and precision in handling real-world cyclic behaviours.</p>	<p>Vital for physics, mechanical engineering, aerospace, ballistics, and sports science. Strengthens skills in modelling motion, interpreting change, and predicting outcomes in complex systems.</p>	<p>Essential in data science, engineering, economics, actuarial work, meteorology, and research. Develops deep problem-solving ability, precision, and an understanding of limits and uncertainty — key for critical, real-world decision-making.</p>		