Key Stage 5 – YEAR 13 A level Maths
Curriculum Map for Students

| | Autumn 1 | Autumn 2 | Spring 1 | Spring 2 | Summer 1 |
|---|---|---|---|---|---|
| **Topic Overview** | **Functions and Graphs.**<br>**Binomial Expansion**<br>**Radian Measure.**<br>**Reciprocal Trig Functions.**<br>**Trig equations and identities.**<br>**Modelling using Trigonometry** | **Modelling using Trigonometry**<br>**Parametric Equations**<br>**Numerical Methods**<br>**Further Differentiation** | **Integration**<br>**Vectors**<br><br>**Statistics Regression, Correlation.**<br><br>**Mechanics Moments**<br>**Forces + Friction** | **Conditional Probability**<br>**Statistics Normal Distribution**<br><br>**Projectiles**<br>**Applications of Forces** | **Statistics Normal Distribution**<br>**Further Kinematics**<br>**Variable acceleration** |
| **Focus** | Modulus Function, Functions and Mappings.<br>Composite and Inverse functions.<br>Transformations of graphs.<br>Binomial Expansion for fractional and negative powers of "n". Approximations using Partial Fractions<br>Radian Measure. Arc length and Sector Area, segments etc.<br>Solving trig equations using Radians.<br>Reciprocal Trig Functions.<br>Solving equations and proving identities. Simplifying Expressions. | Inverse Trig Functions<br>Addition/Double Angle formulae and their applications. The form Acosx+ Bsinx. Modelling.<br>Sketching curves defined parametrically.<br>Use of Trig variables. Point of intersection.<br>Locating roots, process of finding iteration formulae. Using Iteration. Staircase and spiral diagrams. Newton Raphson Method.<br>Differentiating Sin, cos, ln and "e". Applying Chain rule, product Rule and quotient rule. Using trig identities and diff other trig functions. Parametric + Implicit Differentiation, equations of tangents and normals.<br>2nd derivates. Connected rates of Change | Integration of standard functions. Integration using trig identities. Integration by inspection (Reverse Chain Rule) Integration by Parts/ Substitution. Integration using Partial Fractions. Finding Areas by integration including parametric integration.<br>The trapezium rule.<br>Solving diff equations by separating variables. Modelling by forming and solving Diff Eq.<br>3D and relative position.<br>Solving geometrical problems.<br><br>Models, correlation, Hypothesis Testing.<br>Conditional Probability laws and Venn Diagrams<br><br>Moments, resultant moments, Equilibrium, Centres of Mass and Tilting | Conditional Probability laws and Venn Diagrams<br>Finding Probabilities using Normal Curve.<br>Standardising to the Z value.<br>Inverse normal distribution applications. Finding mean and variance. Normal approx. to Binomial Distribution.<br>Hypothesis Testing using Normal Distribution<br><br>Horizontal Projection.<br>Vertical and horizontal components. Angle of projection. Projection Formulae.<br>Static Particles and static modelling.<br>Friction. Rigid bodies<br>Dynamics and inclined planes.<br>Connected Particles. | Hypothesis Testing using Normal Distribution<br><br>Vector in Kinematics<br>Vector methods applied to projectiles.<br><br>Variable acceleration in one dimension and two dimensions using vectors.<br>Differentiation and Integration applied to vectors.<br><br>Revision and Past papers. |
| **Assessment** | *Assessment Pure bk 2*<br>*Ch1, 2, 3, 4, 5, 6, 7* | *Year 13 Mock exams* | *Assessment Pure Bk 2*<br>*Ch10, 11, 12, 13* | *Assessment Applied bk2*<br>*Ch 1, 2, 4, 5, 6, 7* | *A level Exams* |