ASSOCIATED SIXTH FORM
ST AIDAN'S & ST JOHN FISHER, HARROGATE

**Course Outline:** **Year 12 AS level Maths**

| | CONTENT | KEY/FUNDAMENTAL CONCEPTS | ASSESSMENT |
|---|---|---|---|
| Autumn Term | AS-Level – Trigonometry | Sine/Cosine rules<br>Trig graphs<br>Trig identities<br>Solve trig equations | Baseline assessment |
| | AS-Level – Algebra and functions | Surds<br>Indices<br>Quadratic functions<br>Simultaneous equations<br>Inequalities<br>Polynomial division and Factor theorem<br>Graphs of polynomials<br>Graph transformations | |
| | AS-Level – Coordinate geometry | Straight lines<br>Circles | |
| | Half-term | | |
| | AS-Level – Differentiation | Differentiate polynomials<br>Use derivative to find gradient including stationary points<br>Increasing/decreasing functions<br>Differentiate from 1st principles | Mixed assessment |
| | AS-Level - Statistics | Sampling<br>Presenting data, incl Scatter diagrams<br>Averages and spread of data<br>Modelling with probability<br>Binomial distribution | |
| | AS-Level – Exponentials and logs | Exponential and log graphs<br>Definitions and laws of logarithms<br>Solve equations<br>Exponential growth and decay<br>Curve fitting | |
| | Christmas Holiday | | |
| Spring Term | AS-Level – Algebra and functions<br>AS-Level – Integration | Binomial theorem<br>Integrate polynomials<br>Evaluate definite integrals<br>Integrate to find areas | Mixed assessment |
| | AS -Level Mechanics | Use vectors in 2D<br>Magnitude and direction of a vector<br>Position vectors<br>Kinematics and travel graphs<br>Constant acceleration formulae | |
| | Half-term | | |
| | AS -Level Mechanics | Calculus in kinematics<br>Motion under gravity<br>Forces and Newton's laws<br>Connected particles | Mixed Calculus assessment |
| | AS-Level - Statistics | Hypothesis testing for Binomial | |
| | Easter Holiday | | |
| Summer Term | Revision | Revision | EXAMS |
| | Half-term | | |