**All Saints’ Academy Mathematics KS5 Curriculum**

**A’ Level**

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| Cycle | Year 12 | | Enrichment | Year 13 | | Enrichment |
|  | Teacher A | Teacher B |  | Teacher A | Teacher B |  |
| 1 | *Pure:*  Algebraic Expressions  Quadratics and Graphs  *Statistics:*  Data Collection, Representation  Location & Spread  Correlation  Probability | *Pure:*  Inequalities  Circles  *Mechanics:*  Modelling  Constant Acceleration  Forces | UKMT Senior Maths Challenge | *Pure:*  Algebraic Methods  Functions  Numerical Methods  *Statistics:*  Regression and Correlation  Hypothesis Testing  Probability  Normal Distribution | *Pure:*  Sequences & Series  Binomial Expansion  Radians  Trigonometric Functions  *Mechanics:*  Moments  Forces & Friction | UKMT Senior Maths Challenge |
| Careers | * **“Python for A’ Level Maths & Beyond…” Online Workshop** * **What is a Climate Scientist?** | | Careers | * **“Python for A’ Level Maths & Beyond…” Online Workshop** * **What is an Actuary?** | |  |
| 2 | *Pure:*  Algebraic Methods  Binomial Expansion  Trigonometry | *Pure:*  Calculus  Exponentials & Logarithms | University Lecture | Parametric Equations  Differentiation  Integration | Vectors  Projectiles  Further Kinematics | University Lecture |
| Careers | **What is a Software Engineer?** | | Careers | **Analysing Data in Digital Media** | |  |
| 3 | *Statistics:*  Distributions  Hypothesis Testing  *Pure:*  Algebraic Methods | *Mechanics:*  Variable Acceleration  *Pure:*  Functions |  | *Revision and Preparation for Final Exams* | *Revision and Preparation for Final Exams* |  |
| Careers | **What is Location Planning?** | | Careers | **Work in Orthotics and Prosthetics** | |  |

**Further Maths AS Level**

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| Cycle | Year 12 | | Enrichment | Year 13 | | Enrichment |
|  | Teacher A | Teacher B |  | Teacher A | Teacher B |  |
| 1 | *Pure:*  Complex Numbers  Argand Diagrams | *Pure:*  Series Summation  Matrices | UKMT Senior Maths Challenge | *Pure:*  Volumes of Revolution  *Decision:*  Linear Programming | *Mechanics:*  Momentum & Impulse  Work, Energy & Power | UKMT Senior Maths Challenge |
| 2 | Polynomial Roots  Proof by Induction | Linear Transformations  Vectors | University Lecture | Critical Path Analysis | Elastic Collisions | University Lecture |
| 3 | *Decision:*  Graphs & Networks  Route Inspection | *Decision:*  Algorithms  Sorting & Packing |  | *Revision and Preparation for Final Exams* | *Revision and Preparation for Final Exams* |  |