**All Saints’ Academy Mathematics KS4 Curriculum**

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| --- | --- | --- | --- |
| Cycle | Year 10 Foundation | Year 10 Higher | Year 11 |
|  | Knowledge & Skills | Knowledge & Skills | Knowledge & Skills |
| 1 | **Algebra:** * Laws of Indices
* Multiplying linear expressions
* Factorising Quadratic Expressions
* Changing the subject

**Number:*** Standard Form
* Error Intervals
* Compound Growth and Decay

**Construction:*** Perpendicular bisector of a line
* Angle bisector
* Shortest distance from point to a line

**Proportion:*** Simplifying ratios and sharing ratios
* Best buys
 | **Algebra:** * Laws of Indices
* Multiplying linear expressions
* Factorising Quadratic Expressions
* Changing the subject

**Number:*** Standard Form
* Indices and Surds
* Error Intervals
* Compound growth and decay

**Geometry:*** Pythagoras’ Theorem and 3D shapes
* Fractional and negative enlargements
* Similar Shapes and Triangles
* Area and Volume Scale Factor

**Construction:*** Perpendicular bisector of a line
* Angle bisector
* Shortest distance from point to a line

**Proportion:*** Simplifying ratios and sharing ratios
* Best buys
* Connected Ratios
 | Foundation* Revision and preparation for mocks
 | Higher* Circle Theorems
* Quadratic Inequalities
* Sine and Cosine Rule
* Revision and preparation for mocks
 |
| Careers | **Quantity Surveyor** | **Meterologist** | **College options needing Mathematics** | **University options with Mathematics** |
| 2 | **Geometry:*** Area of rectilinear shapes, triangles and circles
* Sector perimeter and area
* Area of compound shapes
* Surface Area and Volume of Prisms
* Pythagoras’ Theorem

**Algebra:*** nth term of linear sequences
* Straight Line graphs
* Simultaneous Equations

**Data Handling:*** Scatter graphs and Line of Best Fit
* averages from tables and grouped intervals
 | **Geometry:*** Spheres, pyramids, cones, frustums and composite solids
* Sector perimeter and area
* Area of compound shapes

**Algebra:*** Algebraic fractions
* Constant of proportionality
* Straight line graphs
* Linear and quadratic sequences
* Simple Geometric progressions.
* Linear inequalities and inequality regions
* Simultaneous Equations – Linear, Quadratic and Circle Equations as one of the equations
 | Revision and preparation for mocks |
| Careers | **CAD Technician** | **Acoustic Consultant** |  |
| 3 |  **Probability:*** Product Rule for Counting
* Two-way tables
* Venn Diagrams
* Tree Diagrams and Conditional Probability

**Geometry:*** Angles in Polygons
* Trigonometry

**Algebra:*** Solving Quadratic Equations algebraically and from their graphs
 | **Algebra:*** Quadratic, cubic, exponential and reciprocal graphs
* Tangent to a circle
* Completing the Square
* Solving Quadratic Equations algebraically and from their graphs

**Probability:*** Product Rule for Counting
* Two-way tables
* Venn Diagrams
* Tree Diagrams and Conditional Probability

**Geometry:*** Angles in Polygons
* Trigonometry
* Vectors

**Statistics:*** Cumulative frequency graphs & box plots
* Histograms.
 | Revision and preparation for final examinations. |
| Careers | **Sports Science and Analysis** | **Statistician** |  |