# Math Syllabus

| Topics | Description |
|---|---|
| Functions including one variable | <ul><li>Inverse functions</li><li>Domain and range</li><li>Linear functions</li><li>Polynomials</li><li>Rational functions</li><li>Trigonometric functions (sine, cosine and tangent)</li><li>Exponential and logarithm functions (including the laws of these)</li></ul> |
| Differentation | <ul><li>The concept of limit</li><li>Tangents and normal</li><li>Rules of operations for differentiation (product, quotient, chain rule)</li></ul> |
| Integration | <ul><li>Indefinite integral</li><li>The definite integral</li><li>Rules for the integral</li><li>Integration by substitution</li><li>Integration by parts</li><li>Calculation of areas by integration</li><li>Calculation of volumes of revolution by integration</li></ul> |
| Vectors in two dimensions | <ul><li>Rules of operations for vectors in two dimensions</li><li>Scalar product</li><li>Vectors in coordinate geometry</li></ul> |
| Differential equations | <ul><li>General/particular solution</li><li>Separable equations of first order</li></ul> |