# Curriculum Summary Document
# Year 11 Mathematics (Higher)

| Module/Unit of Learning | Term Taught | What will students learn? | What does this prepare students for? | Links to other subjects |
|---|---|---|---|---|
| To construct and gain insight from scatter graphs | Autumn | Correlation;  Draw and use lines of best fit. | Standard deviation. | Business; Science. |
| To solve equations using numerical methods | Autumn | Rearrange formulae and use iteration | Solving equations other than quadratic. | |
| Equations of circles | Autumn | Determine the centre and radius of a circle | Calculating equations of tangents to circles. | |
| To understand equations and how they can be represented as graphs | Autumn | Linear and quadratic graphs and equations. | Differentiation and integration. | |
| Solving simultaneous equations | Autumn | Simultaneous equations non-linear. | Calculating equations of tangents to curves. | |
| Sketching Graphs | Autumn | Find intersections with axes; Turning points. | Determine the equation from a quadratic graph. | Science. |
| To understand and solve problems using direct and inverse proportion | Spring | Graphs and equations involving direct and inverse proportion. | More complex proportion problems. | |
| To understand the difference between equations and inequalities | Spring | Represent inequalities on number lines and on graphs. | Linear programming. | Business. |
| To be able to use statistical measures to answer questions | Spring | Compare sets of data using spread and central tendency. | A Level Statistics. | Business; Science. |
| To use vectors to solve problems | Spring | Vector geometry including proofs | More complex vector problems. | |
| Transformations of functions | Spring | Understand how changing an equation will effect a graph. | Transforming piece-wise functions. | |
| Sine and Cosine Rules | Spring | Problems involving non-right-angled triangles. | Navigation; engineering in complex designs. | Geography, Science |
| Circle Theorems | Spring | Solve problems involving angles within a circle | Prove circle theorems algebraically. | |
| Area under and gradient of a curve | Spring | Trapezium rule; Estimate gradient of curve using a tangent. | Differentiation and integration. | |