Gartree High School Mathematics Curriculum

Subject aim:
Students understand a wide range of mathematical concepts, become fluent in mathematical procedures, develop their reasoning skills and apply their learning to solve problems.

KS3 (years 7, 8 & 9) curriculum content (following the National Curriculum)

Year 7

- Calculations
- Fractions, decimals and percentages
- Measures, area and perimeter
- Angles and 2D shapes
- Constructions
- Algebraic expressions and equations
- Factors, multiples and primes
- Square and cube numbers
- Powers
- Rounding
- Bar charts and pictograms
- Averages
- Probability
- Function machines
- Expand brackets

Year 8

- Calculations (including fractions)
- Fractions, decimals and percentages
- Area and perimeter
- Sequences
- Estimation
- Ratio and proportion
- Co-ordinates
- Plot linear graphs
- Constructions
- Graphs and tables
- Angle rules
- Writing and using formula
- Transformations
- 3D shapes
- Factorise expressions
- Volume and surface area
- Probability
- Highest common factors
- Lowest common multiples

Year 9

- Fractions, decimals and percentages
- Factors, multiples and primes
- Collecting like terms
- Brackets
- Substitution
- Angle rules and polygons
- Approximation and estimation
- Ratio
- Direct and inverse proportion
- Interpret and represent data
- Equations & inequalities
- Formula
- Sequences
- 2D Shapes & 3D shapes
- Area and perimeter
- Volume and surface area
- Standard form
- Graphs of functions
- Transformations
- Congruency and similarity
- Units of measure
- Probability

KS4 (years 10 and 11) GCSE curriculum content

Algebra
- Equations, expressions & formulae
- Inequalities
- Functions
- Iteration (Higher only)
- Sequences

Mensuration
- Area & perimeter
- Circles
- Pythagoras and trigonometry
- Units of measure
- Volume and surface area

Basic Geometry
- 3D shapes
- Angles
- Circle theorems (Higher only)
- Properties of 2D shapes
- Ruler and compass constructions

Congruency and Similarity
- Congruency & similarity
- Transformations
- Vector geometry

Approximation and Estimation
- Rounding and truncation
- Estimation
- Error intervals

Graphs of Equations and Functions
- Interpreting graphs
- Straight line graphs
- Transformations of curves and their equations (Higher only)

Indices and Surds
- Exact calculations
- Powers and roots
- Standard form

Fractions, Decimals and Percentages
- Ordering
- Repeat and inverse operations

Number Operations and Integers
- Calculations with integers
- Whole number theory

Probability
- Basic probability and experiments
- Combined events and probability diagrams

Ratio, Proportion & Rates of Change
- Calculations with ratio
- Direct and inverse proportion
- Growth and decay

Statistics
- Analysing data
- Interpreting and representing data
- Sampling