FURNESS ACADEMY

MATHEMATICS CURRICULUM OVERVIEW

MATHEMATICS | GCSE YEAR 10

Foundation and Higher pathways

FOUNDATION

AUTUMN TERM

TOPICS: Factors, Multiples And Rounding, Expressions And Formulae, Averages And Data Representation, Fractions, Decimals And Percentages

WHAT STUDENTS LEARN: Consolidate factors, rounding and bounds, expressions and formulae, averages, data displays, fractions, decimals and percentages.

SPRING TERM

TOPICS: Equations, Inequalities And Sequences, Angles, Measures, Area And Perimeter

WHAT STUDENTS LEARN: Solve equations, inequalities and sequences; use angle facts, measures, area and perimeter.

SUMMER TERM

TOPICS: Graphs Of Functions, Congruence, Similarity And Transformations, Ratio And Proportion, Pythagoras Theorem

WHAT STUDENTS LEARN: Interpret graphs, apply transformations and similarity, solve ratio and proportion problems and use Pythagoras' theorem.

HIGHER

AUTUMN TERM

TOPICS: Factors, Multiples And Rounding, Expressions And Formulae, Fractions, Indices, Standard Form And Surds, Averages And Data Representation (1), Ratio

WHAT STUDENTS LEARN: Extend factors, algebraic manipulation, fractions, index laws, standard form and surds; analyse data and apply ratio.

SPRING TERM

TOPICS: Percentages, Angles And Right-Angled Triangles, Linear And Non-Linear Graphs, Area And Surface Area

WHAT STUDENTS LEARN: Solve percentage problems, use right-angled triangle geometry, interpret linear and non-linear graphs and calculate area and surface area.

SUMMER TERM

TOPICS: Volume, Congruence, Similarity And Transformations, Linear Equations And Inequalities, Quadratic Equations And Inequalities, Constructions

WHAT STUDENTS LEARN: Calculate volume, use congruence and similarity, solve linear and quadratic equations and inequalities and carry out constructions.

KEY SKILLS DEVELOPED

CALCULATE
Accurate methods and number fluency

REASON
Explain, justify and make connections

SOLVE
Apply strategies to unfamiliar problems

COMMUNICATE
Use notation, diagrams and mathematical language

PROGRESSION Builds on Key Stage 3 to develop GCSE fluency, mathematical reasoning and multi-step problem-solving.

ENRICHMENT UKMT challenges, STEM activities and opportunities in Further Mathematics.

FURNESS ACADEMY

MATHEMATICS CURRICULUM OVERVIEW

FURNESS ACADEMY

MATHEMATICS | GCSE YEAR 11

Foundation and Higher pathways

FOUNDATION

AUTUMN TERM

TOPICS: Trigonometry, Probability, Construction And Loci, Quadratics, Volume And Surface Area, Indices And Standard Form

WHAT STUDENTS LEARN: Apply trigonometry, probability, constructions and loci, quadratics, volume, surface area, indices and standard form.

SPRING TERM

TOPICS: Compound Measures, Scale Drawings, Bearings And Vectors, Simultaneous Equations

WHAT STUDENTS LEARN: Develop further GCSE problem-solving with proportion, compound measures, vectors and equations.

HIGHER

AUTUMN TERM

TOPICS: Probability, Proportion And Compound Measures, Non Right Angled Triangles, Sampling, Data Representation And Comparison, Simultaneous Equations, Circle Theorems

WHAT STUDENTS LEARN: Use probability, proportion, compound measures, non-right-angled triangles, data comparisons, simultaneous equations and circle theorems.

SPRING TERM

TOPICS: Functions, Sequences And Iteration, Vectors, Further Algebraic Graphs, Further Real Life Graphs

WHAT STUDENTS LEARN: Extend reasoning through functions, sequences, iteration, vectors and more complex algebraic and graphical problems.

KEY SKILLS DEVELOPED

CALCULATE
Accurate methods and number fluency

REASON
Explain, justify and make connections

SOLVE
Apply strategies to unfamiliar problems

COMMUNICATE
Use notation, diagrams and mathematical language

PROGRESSION Builds on Key Stage 3 to develop GCSE fluency, mathematical reasoning and multi-step problem-solving.

ENRICHMENT UKMT challenges, STEM activities and opportunities in Further Mathematics.