

Key Stage 4 Mathematics Policy

Overview

The aim of the Mathematics curriculum across the Raedwald Trust Outreach Service is to ensure that all learners develop their mathematical fluency, are able to reason using this fluency and apply their knowledge to solve a wide range of practical/functional problems.

Where we are providing specific students with supplementary interventions in collaboration with their mainstream or other full-time educational placement we will focus on those aspects of the qualification the student has been entered for identified for us by the schools as being of the most benefit to the student. Where our students are – temporarily – not on the roll of a full-time provider, we are committed to providing a bespoke package which will enable the learner to achieve an appropriate qualification. Many students have experienced interrupted education both short and long term. A large investment of time is spent reviewing and improving gaps in knowledge.

In addition to consolidating subject content from Key Stage 3, the statutory areas that are covered across our curriculum are:

- Number
- Algebra
- Ratio, proportion and rates of change
- Geometry and measures
- Probability
- Statistics

Impact

All students will follow their mainstream school's examination board's curriculum and will follow either the GCSE or Functional Skills curriculum. The majority of students will begin the foundation course within Year 10 and work through the following units of work across the two years. For students that start in Year 11 a condensed Programme of Study would be delivered. We work in collaboration with the student's mainstream school and focus on those elements of the curriculum which the school identifies as of most benefit to the student.

The GCSE curriculum cover the following:

Foundation	Year 10	Year 11
Year 10	-Fractions, Decimals, Percentages -Mensuration -Ratio and proportion -Approximation/estimation -Algebra part 1 -Graphs of equations/functions -Statistics -Basic Geometry inc Angles -Number operations -Congruence and similarity -Probability	Algebra part 2 -Indices -Review of mensuration -Review of approximation -Geometry-Pythagoras theorem/Trigonometry -Review of graphs, statistics and probability -Loci and Construction *Consolidation of topics through targeted revision programme

Students performing at or above GCSE Grade 5 will be given a bespoke offer which will allow them to reach grades 6, 7, 8 and 9.

Key Stage 4 Mathematics Policy

Higher	Year 10	Year 11
Year 10	<ul style="list-style-type: none"> -Fractions, Decimals and Percentages -Mensuration extended -Ratio and proportion -Surds -Statistics -Algebra inc solving, factorising, simultaneous and quadratics -Indices -Probability -Graphs of equations/functions - Geometry inc Pythagoras' theorem and Trigonometry - Data presentation including cumulative and Histograms 	<ul style="list-style-type: none"> Further algebra -Extended Trigonometry -Growth and decay -Direct and inverse proportion -Vectors -Graphs -Functions -Iterations -Geometry inc Circle theorems -Gradients and rates of change <p>*Consolidation of topics through targeted revision programme</p>

Topics are revisited at the start of sessions and recap knowledge from last lesson, last week and last month. We use this format to allow us to improve retention of key knowledge. We also ensure that lessons place a high emphasis on fractions, decimals, percentages and ratio as these topics are fundamental topics that are tested within many other topic areas.

The Functional Skills curriculum covers the following:

The qualification compliments the topics taught within the GCSE and allow students to relate Mathematics to real life contexts. Functional Skills cover the following areas:

- Number
- Measure, shape and space
- Handling information and data

Students have the opportunity to achieve Level 1 and 2 qualifications. The Functional Skills qualifications are recognised by employers and post-16 providers.

Mathematics and the wider curriculum

Within the Outreach Service we believe that it is important for all students to develop cultural skills, knowledge and behaviors that will allow them to thrive in society and the world of work. The Mathematics curriculum sets out to develop our learners' cultural capital to make them ready for their next stage in their lives. This is achieved in many ways including teaching student's real-life skills related to reading timetables, budgeting, finance, recipes, speed/distance, etc.

The Mathematics curriculum promotes the British values of tolerance and resilience each lesson through problem solving and understanding of complex concepts. Students are encouraged to learn from mistakes and are supported to improve their understanding.

Key Stage 4 Mathematics Policy

Every opportunity is taken within the classroom to allow students to develop their reading. Many forms of text are actively shared with students to prepare them for independence within society including reading menus, timetables, recipes, advertisements, construction plans, etc.

Students are actively encouraged to read and are supported to understand key words. Staff explicitly teach the meaning of command words to aid students' understanding of mathematical questions. Within lessons staff promote high standards of literacy, articulacy and the correct use of standard English.