

Enrichment: Core Mathematics

Exam Board: Edexcel

Subject Specific Criteria:

- Grade 4 or higher in Mathematics at GCSE

This builds on the maths GCSE, it takes all of the ideas you have learned about and applies them to very real world situations. If you have an interest in how the world works, but don't want to take A-level maths, then this course is for you.

Assessment:

Component 1: Written assessment 1hr 40 mins
Paper code 7MC0/01 (60 marks)

Component 2: Written assessment 1hr 40 mins
Paper code 7MC0/02 (80 marks)

Component 1 is a comprehension type assessment. You will be given a source booklet with multiple different pieces of information, taken from real world data, and asked to analyse it using techniques that you have learned during the course. The sources are available in advance to help with the analysis of the data.

Component 2 is split into 2 sections. Section A follows on from paper 1 and keeps the context from those sources, without reusing them. Section B will give 3 tasks, each with a different theme

Both papers may assess any of the course material. Calculators can be used in both papers.

Skills Required:

- Analytical thinking
- Independent learning
- Desire to find out how the world works
- Conscientious attitude to learning
- Good understanding of grade 5 topics from GCSE maths

Course Information:

The course can be broken down into 4 areas and lasts for 1 year.

Applications of Statistics - this takes all the statistics content from Higher GCSE maths including, box plots, cumulative frequency tables and graphs and histograms along with quartiles and interquartile range, and adds new statistical analysis skills including, moving averages, variance and standard deviation, knowledge of independent and dependent variables, product moment correlation coefficient, linear

regression and Spearman's rank correlation coefficient. All of which are used for everyday analysis of any data.

Probability - this takes all of the Higher GCSE content, including conditional probability, and teaches students how to use probability to work out risk vs reward.

Linear programming - this builds on a pupil's understanding of graphs, equations of a straight line, solving equations, and inequalities. It then takes it and applies them to solving 2 variable programs allowing pupils to work out the best way to maximise profit from those 2 variables.

Sequences and Growth - this builds on a pupil's understanding of percentages, percentage growth/decay and sequences. This leads into interest rates on loans, depreciation of purchases, golden ratio and can then be used in the context of growing their own workforce or business.

Future Opportunities:

Supports other Level 3 studies: Reformed A Levels in subjects including the sciences, Psychology, Geography, Business and Economics require students to have acquired competence in quantitative skills. Assessment of quantitative skills forms an explicit part of the overall assessment for these qualifications. Core Maths will enable students to feel more comfortable with the maths they will encounter in their other subjects.

Students are better prepared for University. Many courses have a lot of hidden maths, particularly statistics so having this course will help students with their higher education.

Links to the real world and as such links to the working world. Much of the analysis technique learned in the course can be applied to management level jobs in particular.

Subject Enrichment:

- Visits to inspirational maths events
- Maths affects everything we do in hidden ways, having a greater depth of understanding will make the whole world make a little more sense and more interesting