



Maths

Mr Keeler (**Head of Department**)

Mrs A McKay

Mrs J Ingram

Miss L Playfoot

Mr A Murphy

Mrs H Nicholls

Key Stage 3

Year 7 Part of the REAL curriculum

The main cohort of year 8 will be continuing with their studies to sit the GCSE qualification, and will be dedicating their entire time to those studies over the next two years. This is shown in the first flowchart underneath. There will be individuals that the GCSE qualification is not suitable to take at this moment in time. There are now courses on offer by the Department that help prepare for the GCSE qualification and the life skills needed for society.

Key Stage 4

KS4 (Years 9 and 10)

From September 2007 there are two tiers of entry: Foundation (grades C to G)
: Higher (grades D to A* (E))

The courses on offer are as follows

Higher Tier: **Edexcel Linear A 2540**

With coursework (Yr 10 Sept.2007)

Higher Tier: **Edexcel Linear A 1380**

Without coursework (Yr 9 Sept.2007)

Outline

Higher without coursework(1380)

Examination

Paper 3 50% 1 hour 45 minutes (non-calculator)

Paper 4 50% 1 hour 45 minutes (calculator)

Higher with coursework(2540)

Examination

Paper 3 40% 1 hour and 45 minutes (non-calculator)

Paper 4 40% 1 hour and 45 minutes (calculator)

Coursework 20% Investigative task(completed)
Statistical task (January 2008)

For more information go to the Edexcel website and look up the appropriate course.

Foundation Tier: **OCR Graduated Assessment J516**

With coursework (Yr 10 Sept. 07)

Foundation Tier: **OCR Graduated Assessment J517**

Without coursework (Yr 9 Sept. 07)

Outline



Foundation without coursework(J517)

The students follow the Graduated Assessment course in their ability based sets. At foundation there are six modules available (M1 to M6) graduated in content and level of difficulty.

The students will sit three, 1 hour module tests over two/three years (negotiated with the teacher as to what is best for the individual student).

The module tests are split into 2 sections 30mins non-calculator and 30mins calculator
The module tests account for **50%** of the final mark.

The terminal examination will be of two hours duration and will be in two sections, A and B, each of one hour duration. The terminal examination accounts for **50%** of the final mark.

Students must sit a minimum of 2 modules to fulfil the requirements of the course.

The students best 2 module scores will be added together for the graduated assessment component.

That mark will be added to the terminal examination mark to produce the final grade.

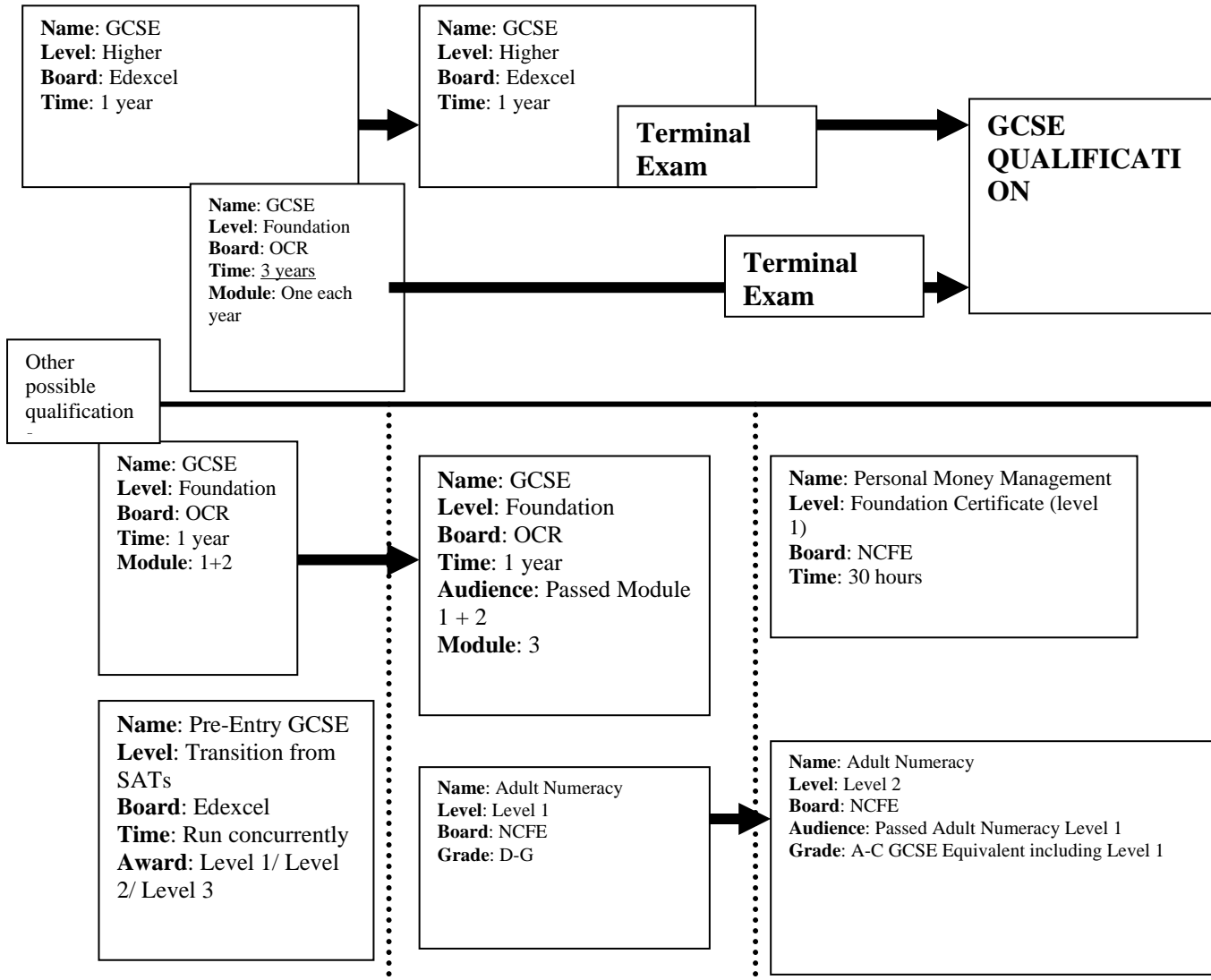
Students can also re-sit any module only once and it must take place prior to certification. For more information on the course visit the examination board website: ocr.org.uk

Foundation with coursework(J516)

Two pieces of coursework are required to be submitted and account for **20%** of the final grade awarded. The investigational task has been completed and the statistical task will be completed in the January of YEAR 10.

The module tests account for **30%** of the final mark. The terminal examination accounts for **50%** of the final mark.

The outline for the module tests is as above.





Key Stage 5

Each consist of 3 units and are examined by a 1 hour 20 minute examination. Some mechanics and statistics options also involve a coursework element.

The AS units studied are as follows:

Autumn term: Methods (a mix of pure maths and statistics)

Spring/Summer Terms: Pure 1 & Mechanics 1

The A2 units are as follows:

Autumn term: Pure 2

Spring/Summer terms: Pure 3 & either statistics 1 or mechanics 2

For more information on the specifications go to the <http://www.AQA.org.uk>

Examinations Offered

The Mathematics Department offers 2 courses from the Assessment and Qualification Alliance, namely, Advanced Level(A2) Mathematics and AS Level Mathematics.

Course Content

Each course is designed to build on the foundations laid down at GCSE and will be assessed in modular units.

The Advanced Level consists of six units, three taken each year. In the first year the units "Methods" and "Pure 1" are compulsory. In the second year a further two Pure units are compulsory with Statistics and Mechanics units complementing the course. During the first year the AS level award can be attained on satisfactory completion of the three units covered in that year.

AS Level = Methods - Pure 1 - Mechanics 1

A2 level = Pure 2 - Pure 3 - Statistics 1

Aims

The aims of the courses are to enable students to:

develop their understanding of mathematics in a way that promotes confidence and fosters enjoyment

develop abilities to reason logically extend their range of mathematical skills and techniques

develop an awareness of the relevance of mathematics to other fields of study, to the world of work and to society in general

take increasing responsibility for their own learning and the evaluation of their own mathematical development

Assessment

Each modular unit consists of a 1 hour and 20 minutes examination. The assessment units are equally weighted in each of the Courses on offer with the Statistics and Mechanics modules requiring coursework as well as a written paper.

Requirements

The Mathematics Department will consider applications from students who obtain A*, A, B or C at GCSE and



invite applicants to a short interview at the beginning of the term to discuss their suitability.

Career Opportunities

Mathematics A Level is highly respected by Universities and employers. A wide variety of courses, careers and jobs require A level Mathematics

AQA Mathematics (from 2003)

Prior Knowledge :

GCSE grade C or above at higher tier At intermediate tier those students with a grade C will be interviewed prior to acceptance on the course

What Will I Learn?

Mathematics at AS and A2 level is a course worth studying in its own right. It is both challenging and interesting. It builds on work completed at GCSE level and serves as a very useful support for many other qualifications.

While studying Mathematics you will be expected to :-

- use mathematical skills and knowledge to solve problems
- solve problems by using mathematical logic and demonstrate proof
- use mathematics to solve real life problems
- use calculator technology and other resources effectively and appropriately

Mathematics at AS and A2 level is divided into four branches:

Pure Mathematics

When studying pure mathematics you will extending your knowledge of such topics as algebra, trigonometry as well as branching into areas such as calculus.

Although many of the ideas you will meet in pure mathematics are interesting in their own right, they also serve as an important foundation for other branches of mathematics, especially mechanics and statistics.

Mechanics

The mechanics modules follow on from the ideas taught at GCSE Physics. You will learn about the motion of objects and how they respond to forces and the technique of mathematical modelling.

Many of the ideas you will meet in the course form an almost essential introduction to such important modern fields of study as cybernetics, robots, biomechanics and sports science, as well as the more traditional ideas of engineering and physics.

Statistics

Statistics involves analysing numerical data in order to arrive at conclusions and extends the information taught at GCSE level. Those students who achieved a GCSE in statistics will be familiar with a large proportion of the content in this module.

Discrete Mathematics

Discrete mathematics looks at decision making and you will learn how to solve problems involving networks. You will study a range of algorithms which enable such problems to be tackled