WycliffeCollege

Mathematics Department
Handbook

(abridged)
(January 2018)

Staff

The mathematics department consists of eight full-time and two part-time members of staff. All staff (apart from the part-time teachers) currently teach from Y9 up to sixth form.

Anastasia Cobbs	**Head of Mathematics**
Andrew Finebaum	**Second in Department**
Ian Russell	**Housemaster (Haywardsfield)**
Peter Scott	
Emma Lunch	
Suzanne Flye (part-time)	
Kirsten Cox (part-time)	
Jack Thomas	
Alun Hart	
Peter Martin	**Assistant Head**
Alison Hodges and Basil Norbury	**Individual Tutors**

2. Courses and Specifications

2.1 Key Stage 3
In Year 9 continue with work done in Years 7 and 8 with internal assessment throughout the year. The course runs for 5 periods per week. Students begin work towards the AQA GCSE (9-1) specification and follow a three year course leading to the examination.

Setting in Year 9 (usually 6 sets) is based on information from previous schools together with the results of Year 8 tests from the Prep School and any available CEM data. The aim is to set overseas students by their mathematical ability regardless of their linguistic ability. This is accomplished by the use of CAT tests and any information available on previous education e.g. school reports. With 6 sets the numbers in each (maximum approximately 15) are such that each set has a fairly small ability range and transfers between sets can take place easily.

If a student requests support with their Year 9 project, staff within the department will be willing to provide such support as they can.

2.2 GCSE
At the end of Year 9 classes are reset into 6 or 7 sets when teaching staff allocations allow.

Students continue work towards the AQA GCSE (9-1). Four periods per week are available for mathematics. The first cohort sat the examination in Summer 2017.

Schemes of work are based on texts that have differentiated exercises. This allows the selection of material appropriate for each pupil regardless of ultimate level of entry relatively easy. Those in sets 1-4 generally take higher tier. Students in sets 5 & 6 are likely to take foundation exams.

As a policy we do not enter pupils early, however the top set in each cohort may be taught beyond the GCSE specification and considered for entry to an examination in addition to the GCSE – currently the AQA Level 2 Certificate in Further Maths, though the new GCSE (9-1) may provide enough extension at Grade 9.

2.3 GCSE for Sixth Form and the Level 3 Certificate in Quantitative Reasoning
Sixth Form pupils who have not previously gained a grade C or better in GCSE or an equivalent are offered the chance to take GCSE mathematics. The course is not compulsory for all such students however they, their parents and tutors must be made aware of the consequences of leaving school without a grade C/4 or above. Students take AQA (9-1)GCSE or Edexcel IGCSE, as appropriate for the individual.

For sixth formers who have a grade C/4 or above, but who do not wish or need to take A-Level mathematics, we offer a Level 3 Certificate in Quantitative Reasoning (OCR/MEI). This puts their mathematics skills into the context of their other A-Level subjects, the wider world, and possible future work contexts.

2.4 Development Year IGCSE

A one year course is provided for all members of the Development Year leading to an International GCSE (Edexcel) qualification in Mathematics.

Initial setting, into three or four groups, is done by a preliminary test although all those with aspirations of studying mathematics at A-level should follow the higher specification.

2.5 AS and A2 Courses in Mathematics and Further Mathematics
AS and A-Level courses are available for those students who opt for them and who have a reasonable chance of success. A grade 6 (or B) or better GCSE or IGCSE obtained from higher tier specifications is required.

With current Year 12 we have begun work towards the new specification AQA A-Level course and all

will sit the AS at the end of Y12. Further Mathematics students will also sit the AS exam but are studying the full A-Level this year. They will take exams in A-Level Mathematics and Further mathematics (board to be decided) at the end of Y13.

2.6 Oxbridge Entrance and STEP
As soon as possible Oxbridge candidates are identified, and preparation of these students can begin. In Y12, as sufficient background work has yet to be covered, this will usually be by providing extension questions to topics rather than by formal lessons. In Y13 lessons will be provided in preparation for the Oxford papers and will include interview preparation. In the case of Cambridge, if STEP papers are required, lessons will continue through to the time of the papers. We have a couple of staff very experienced in helping such students.

4.1 Calculators
Due to their ease of use, relative low cost and hence availability, scientific or graphic calculators are likely to be the main source of ICT for pupils in mathematics classrooms.

Early in Year 9 all pupils are expected to purchase a scientific calculator and subsequent to this they will be given instruction in the use of the advanced facilities available.

Continued use of the calculators should be encouraged by:
a) use of suitable activities in class and for preps;
b) reference to their use in the appropriate scheme of work.

At A-Level students are issued a Casio CG-50 Graphic Calculator and expected to use these as an integral part of their learning.

4.2 MyMaths, Mathsnet, Integral, Examsolutions, Mathsbox, Cambridge GCSE Mathematics and MechanicsOnline
The department has subscriptions to the above for KS3, GCSE and A-Level. They are useful tools both to aid the teacher in presentation of topics and in providing an alternative source of explanation and exercises to the pupils.

At the start of the year all pupils should be enrolled in and be given instruction in the use of the appropriate programme(s).

4.3 Geogebra
This is the main graphical package used in the department, though we do have Autograph software available. Students at A-Level are encouraged to download their own (free) copy of Geogebra to their own device.

4.5 Ipads
The department is exploring the use of ipads in the teaching and learning of mathematics and uses the school sets of ipads as appropriate. All members of the teaching staff are issued with a school ipad for their own use in teaching.

4.6 Interactive Whiteboards
All mathematics classrooms (and other classrooms used around the school) have interactive whiteboards and these should be used as appropriate to enhance teaching and learning.