

Centre Assessment Grades (CAGs)

Woodhouse Maths department

Teacher input

Teachers input two things:

- **Exam score** - Teachers choose the assessment that best reflects the student out of the Ucas exam and the January Mock. These are already scaled to be similar and use the standard UMS grading (i.e 90=A*, 80 = A, 70 = B,..., 40 = E).
- **Teacher score** - Teacher give a score that they think best reflects the UMS that the student would get at the end of the year. They used a strategy of what would they have been 'pleased with' to see them get.

Moderation of Teacher score

Based on historical data, and how the teacher score came out, it was decided that students generally improve by a grade from their big internal assessments. They very rarely drop a grade or rise by more than 2 except in extreme cases.

HoD then adjusted all teacher scores so that their differences to exam score were closer on average and spread. This mitigates slight differences in approach of teachers that would have been hard to ensure merely through communicating a strategy.

Further mathematicians

Due to distinct differences of the teaching of further mathematicians were excluded from this moderation because:

- They had finished the course and been revising maths and further maths since February and so a far larger jump from January mocks was to be expected. At the time, they were focussing on further maths material and so their maths January mock mark would have been lower than potential.
- Since their scores are much nearer 100%, the distribution would be too skewed.

The teacher scores would account for this and moderation was possible on an individual basis due to smaller numbers.

Student ranking

HoD then ranked students using the following methodology.

Student score

A weighted average of the exam score and the teacher score was taken:

$$\text{Student score} = \frac{(\text{Exam score}) + 2(\text{adjusted Teacher score})}{3}$$

The justification for this being that teachers know their students well and that there are sometimes significant changes in student attitude following the mock, particularly in the cases of certain demographics.

HoD Discretionary

Students for who neither January mock or the UCAS prediction exam was representative of what they could do *in exam conditions*.

For example, it **included** examples of:

- Significant illness during both exams
- Significant safeguarding issues that had been sufficiently resolved so they would have performed much better in the final exam.

It did **not include** examples of

- Just never pulling it together in the exam,
- Or teacher always thinking that they underperformed in those two exams,

As this would be accounted for by the teacher score already.

Further mathematicians

They were given a HoD discretionary addition at this stage based on the reasons above.

Students were then ranked using the student score.

Grade profile

With the ranking sorted, a grade profile could be decided.

Recent data on A level results is as follows, with an reasonable target column added based on expectations of what results would look like in the final column. Justification for this improvement on 2019 results is provided below.

Grade	% Running total					CAG v1	CAG v2
	2017	2018	2019	3-year Average			
A*	24	17	10	17		20	25
A	40	41	28	36		40	48
B	63	71	50	61		65	68
C	81	85	69	78		80	85
D	92	97	84	91		93	94
E	97	99	96	97		98	98
U	100	100	100	100		100	100
ALPS Score	0.93	0.96	0.81			0.89	0.93
ALPS Grade	5	5	7			6	5
Average exp points	106	106	105			110	110

The ranking of students was then fitted to the data to give their CAG.

Ex students

Ex-students were added in at the very end.

Teachers were asked what grade they thought these students would get. They would be added in at that grade point but at the bottom of the ranking of each group due to the lack of recent evidence as to their approach to working.

Justifying improved Maths grade profile over Summer 2019

Factors for underperformance in Summer 2019

The Woodhouse maths A level results in Summer 2019 were certainly below our usual results. We believe the biggest factors for this were:

- **Diagnostic testing** – Our diagnostic process at the start of their A level was not thorough enough. Therefore, several students continued in their A level maths when it wasn't the best choice of A level for them. Also, several students failed their end of year 1 test and never really got back on track.
- **Course pacing** - Not covering enough content in the first year of their A level. We had not finished all of year 1 content by Summer 2018 and there was significantly low attendance in the last half term of year 1. The last few topics of the year 2 course were only just taught in time.
- **Underestimating difficulty** – We believe that many of our weaker students capitulated under the difficulty of the new specification, something which more could have been put in place by the department to avoid.

Actions taken by the department and college

- **T&L report and SAR.** As outlined in our T&L report, the department has shown good improvement in several areas since last year, such as discipline in class and improving the quality of maths communication by students.
- **The students are a stronger year group.** They have higher GCSE grades. According to ALPS, for both maths and further maths, the students were due to score, on average, about a quarter of a grade higher.
- **Diagnostic test.** The diagnostic test in September 2017 was significantly improved in September 2018 (and September 2019). Crucially, we taught content first and tested on that. This gave more reliable data. More students switched subject across the college. Crucially, some of the students who shouldn't have been doing maths switched subject.
- **Teaching more year 1 content in year 1.** With both subsequent years to the Summer 2019 cohort, we have made significantly more progress in year 1. With the reorganisation of the Summer term in Woodhouse (exams at end), we got some key topics of year 2 completed and would have been comfortably finished, with revision for the summer 2020 exams.
- **Create a wider plan for exceptionally weak students going into upper sixth beyond maths department support.** Significant work was done by senior tutors and SLT for students going into Autumn 2019. Expectations were set appropriately high and some students decided to switch to AS level. This was guided carefully within their post-Woodhouse aims with Senior Tutors and the Career's Advisor.
- **Higher expectations of question difficulty.** We have consistently reviewed all questions used in class, topic tests and big assessments to make them harder. More realism as to the level required used throughout.
- **New structure on contracts and parent involvement.** We have used more one-to-one conversations at the end of lessons. Also, teachers set up more meetings between HoD and students to discuss their progress.

- **Significantly higher expectation of independent work.** We centrally set weekly sets of exam questions covering many topics across all of the second year to continually consolidate previous topics.
- **Teacher timetabled for one-to-one meetings.** CIO has had scheduled appointments and mentoring for underperforming students all year. Students were chosen by teachers to be ones that could benefit with some guidance on how to tackle maths A level, both in a strategic and content (of the subject) way.

Further Maths grade profile

Grade	% Running total				CAG v1	CAG v2
	2017	2018	2019	3-year Average		
A*	16	18	32	22	40	40
A	43	39	54	45	60	75
B	63	65	82	70	85	90
C	76	86	93	85	95	97
D	86	95	98	93	100	100
E	97	100	98	98	100	100
U	100	100	100	100	100	100
ALPS Score	0.86	0.92	0.99		0.99	1.03
ALPS Grade	7	7	5		5	5
Average exp points	110	109	112		117	117