

The accuracy of forecast grades for OCR A levels

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Timeline of applications process

Introduction

The university application process is run by UCAS, an organisation with responsibility for processing applications to universities and colleges in the UK. Applicants complete an online application form which includes: their personal details; the institutions and courses that they wish to apply to; their educational record; past examination results; courses currently being studied and a personal statement. The application contains a written reference, usually from someone who is able to comment on the student's academic suitability for the course.

Predicted grades

Predicted grades are entered onto the application form by the referee. They are forwarded to the institutions with the application. As they are submitted during the application process (between September and January) they may differ from the estimated or forecast grades which are supplied to the awarding bodies in May.

Application stages

There are four different types of stages in the UCAS process: *Application*, *Extra*, *Adjustment* and *Clearing*. *Application* refers to the normal application process followed by students. Each applicant can apply for up to five courses (4 for medicine, dentistry, veterinary medicine and veterinary science) in the first round of the application process. UCAS passes these applications on to the institutions within approximately 15 days of receiving them. The institutions then make conditional or unconditional offers to the applicant, or advise the student through UCAS that their offer has been unsuccessful.

A second round of applications, *Extra*, takes place for those candidates who applied to five courses in their original application and either received no offers or declined all the offers that they received. During *Extra*, applicants are able to apply to courses with vacancies. Applicants are only able to apply to one course at a time. If they are unsuccessful or decline their offer, they are able to apply to another course with vacancies.

Once the results have been received in August, applicants who exceed their offers are able to access a third round of applications, *Adjustment*. During the two weeks that adjustment is open, they are able to apply to courses whilst retaining their original offer. If an offer is made through adjustment, their original institution is informed and that offer is automatically withdrawn.

During *Clearing*, a list of courses with unfilled places is published, alongside their entry requirements. Applicants who failed to meet the terms of their first choice and insurance offer, who failed to receive offers during the application process, or who declined offers they were made are automatically entered into clearing. They are able to apply for any course whose entry requirements they meet.

Timetable

Figure 1 shows the main dates in the application process. UCAS publishes several different deadlines for institutions to make decisions about applicants. The dates published used in Figure 1 are the preferred deadlines for applications received by the 15th January. A complete list of deadlines, including those for offers made through *Extra*, is available from the UCAS website¹.

¹ http://www.ucas.ac.uk/he_staff/dates

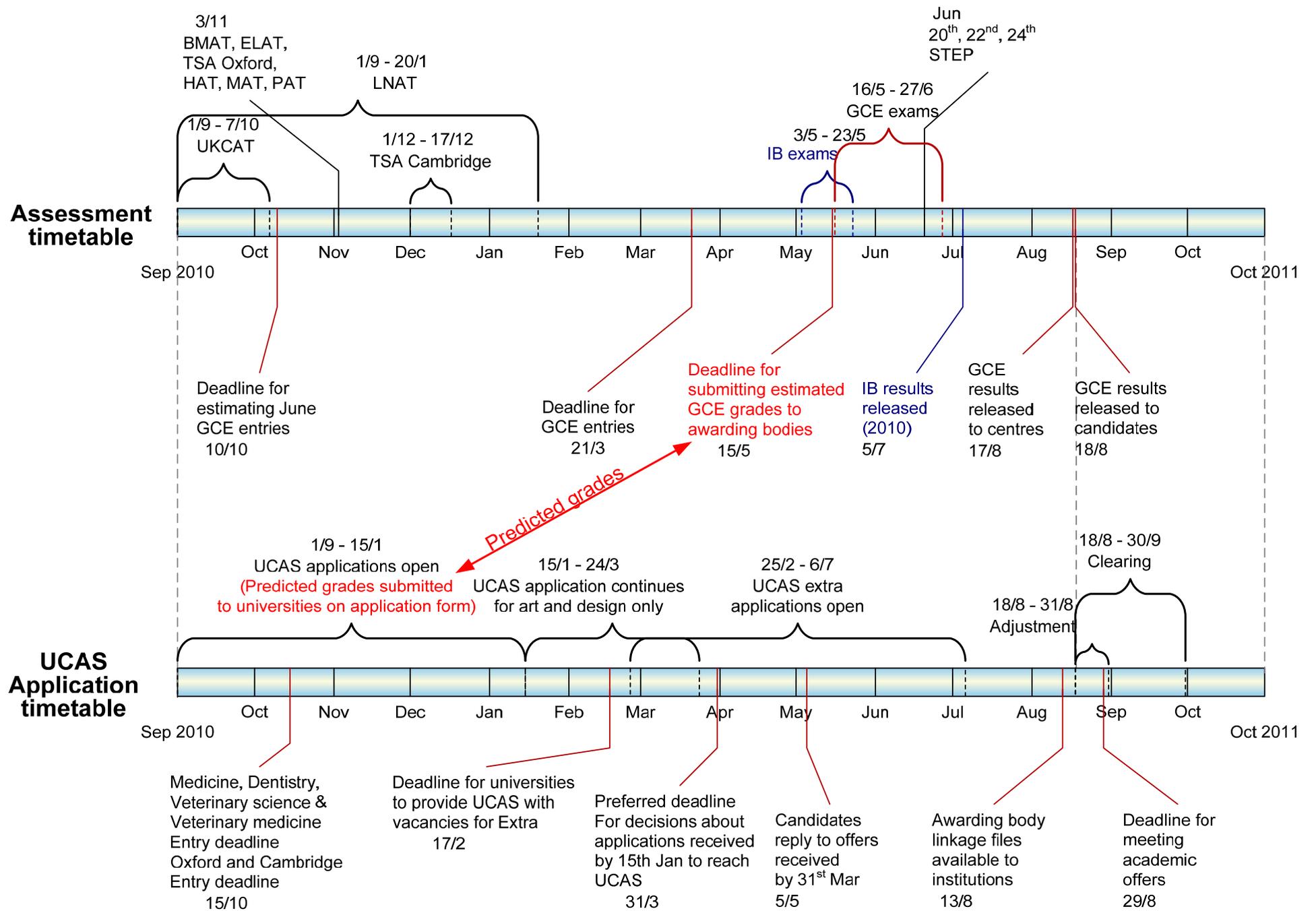


Figure 1: UCAS application process and key dates in the assessment cycle

Accuracy of forecast grades

This section of the document analyses the accuracy of forecast grades in OCR A levels, in relation to the final grade. The forecast grades in this report are those reported by teachers to the exam board prior to the final examination session. As such, they may differ somewhat from the predicted grades sent to UCAS as part of the university application process. The deadline for reporting forecast grades to OCR is May whilst UCAS receive predictions during the applications period which ends in January (see Figure 1). Hence, by the time OCR receive the forecasts teachers will have more information about students' potential, as more unit results will be available and there will have been more teaching time.

The data for this report were for students certificating in June 2009 in all OCR A level subjects. Data from 2010 were also available, but it was decided not to run the analysis for that year as it would be complicated by the introduction of the A* grade.

Although the data presented in this report are for the OCR exam board only, there is no reason to suggest that the results would not be representative of England exam data as a whole. Analysis of data from the National Pupil Database show that OCR accounted for 27% of the A level results in 2009. About 27% of OCR results were at grade A, compared to 32% of EDEXCEL results and 24% of AQA results. About 74% of OCR results were at grades A-C, compared to 78% of EDEXCEL results and 72% of AQA results.

1. Accuracy of forecast grades

Overall, the forecast grade was correct about 55% of the time. Forecasts were, in general, more optimistic than pessimistic.

Table 1: Overall accuracy of forecast grades

% Accurate	54.65
% Optimistic	33.13
% Pessimistic	12.22

Table 2 demonstrates that, in the vast majority of cases, the forecast grade was correct or was within one grade.

Table 2: Extent of inaccuracy of forecast grades

	%	N
Within 1 grade	93.04	181,251
More than 1 grade out	6.96	13,558

Table 3 shows the accuracy of the forecast grades by school type. Independent and grammar schools were the most accurate at forecasting A level grades. Further education (FE) colleges were the least accurate. FE colleges and comprehensive schools were the most optimistic. Independent and grammar schools were the least optimistic.

Table 3: Accuracy of forecast grades by school type

School type	% Accurate	% Optimistic	% Pessimistic	N
Comprehensive	50.35	37.37	12.28	77,879
FE College	47.15	38.07	14.78	7,801
Grammar	60.51	27.63	11.86	19,023
Independent	68.54	20.48	10.98	35,174
Sixth Form College	51.42	35.87	12.71	40,992
Tertiary College	51.13	33.95	14.92	7,540
Total	54.65	33.13	12.22	194,726

Overall, it was easier for teachers to correctly forecast higher grades than lower grades (Table 4). In particular grade A was by far the easiest to forecast. This may be partly because the range of marks for an A is much larger than for lower grades (except perhaps grade U). Furthermore, it is not possible to overestimate grade A students. This pattern is the most likely reason for the better accuracy in independent and grammar schools, where students achieve higher grades on average.

It is also interesting to note that the percentage of optimistic forecasts was higher at lower grades.

Table 4: Accuracy of forecast grades by final grade

Final Grade	% Accurate	% Optimistic	% Pessimistic	N
A	84.10	-	15.90	50,300
B	54.48	28.49	17.02	47,919
C	49.02	39.59	11.39	44,272
D	35.23	57.09	7.68	31,147
E	30.43	68.18	1.38	15,920
U	9.33	90.67	-	5,168
Total	54.65	33.13	12.22	194,726

2. Accuracy of A level combinations

2.1 All students

In this section the accuracy of the forecast of the *combination* of A levels taken by individual students is investigated. For this, grades were converted into points as per the UCAS tariff (A = 120, B = 100, C = 80 etc) for students taking three A levels (most university offers are for three A level grades). The overall points score based on the forecast grades for each student (*forecast points score*) was then compared with the actual overall points score (*final points score*).

When considering the accuracy of the forecasts across a combination of subjects there are two possible calculations: actual difference and absolute difference. The *actual difference* (which is more useful when university offers are made in points, due to compensation) is the difference between the forecast points score and the final

points score (e.g. forecast points score = $120 + 120 + 100 = 340$; final points score = $120 + 80 + 120 = 320$; actual difference = $320 - 340 = -20$). However, using this measure may hide some inaccuracies if, for instance, an optimistic forecast by one grade in a subject is cancelled out by a pessimistic forecast by one grade in another. An alternative measure is the absolute difference (more useful when offers specify grades in particular subjects). This is the (absolute) sum of the differences between each forecast and final grade (e.g. absolute difference 1 = $120 - 120 = 0$; absolute difference 2 = $80 - 120 = 40$; absolute difference 3 = $120 - 100 = 20$; overall absolute difference = $0 + 40 + 20 = 60$).

Analysis was undertaken using both these measures. Please note that the analysis is only for students taking three OCR A levels.

On average, the forecasts for combinations of A level subjects were optimistic, with forecast points score slightly above final points score (see Table 5). However, Table 6 shows that most of the differences were very small; 39% of overall forecast points scores were exactly right, and 72.9% were exactly right or within 20 points - equivalent to an increase/decrease of one A level grade.

Table 5: Mean accuracy of A level forecast points score

Variable	Mean
Forecast points score	299.37
Final points score	286.83
Actual Difference	-12.53
Absolute difference	27.12

Table 6: Distribution of actual difference between final and forecast points score

Actual Difference	Frequency	Percent
-220	3	0.04
-200	3	0.04
-180	2	0.03
-160	4	0.05
-140	10	0.13
-120	28	0.36
-100	76	0.97
-80	222	2.84
-60	461	5.90
-40	965	12.34
-20	1,699	21.73
0	3,057	39.10
20	947	12.11
40	261	3.34
60	66	0.84
80	12	0.15
100	2	0.03
120	1	0.01

In terms of absolute differences, Table 7 shows that 31.3 % of forecasts were exactly accurate, and over 60% were within 20 points, that is, one A level grade.

Table 7: Distribution of absolute difference between final and forecast points score

Absolute Difference	Frequency	Percent
0	2,445	31.27
20	2,299	29.40
40	1,721	22.01
60	851	10.88
80	333	4.26
100	99	1.27
120	46	0.59
140	12	0.15
160	5	0.06
180	2	0.03
200	3	0.04
220	3	0.04

Table 8 shows the A level points score forecasts by school type. For all school types the average forecast was optimistic. As with the individual grades the most accurate forecasts were made by independent and grammar schools. They were also the forecasts that were least optimistic. However, this may be due to the nature of the students attending these schools. They are likely to be very able students, and therefore it may be easier to forecast their grades correctly (as it is not possible to overestimate a grade A - see Table 4).

Table 8: Mean accuracy of A level forecast points score by school type

School type	N	Mean Forecast	Mean Final	Actual Difference	Absolute Difference
Comprehensive	2,500	281.04	263.42	-17.62	33.26
FE College	186	270.86	256.13	-14.73	34.62
Grammar	1,088	317.96	308.97	-8.99	24.07
Independent	2,243	327.64	321.52	-6.12	18.07
Sixth Form College	1,446	283.46	268.01	-15.45	30.89
Tertiary College	224	272.68	260.36	-12.32	31.47

2.2 Students with a forecast points score of 240 or above (equivalent to three grade Cs)

The forecast grades analysed in section 2.1 were for all A level candidates, not just those who were planning to go to university. Thus, this included students of a larger ability range than those for whom a predicted grade is sent to UCAS.

In this section we analyse data for students with both a forecast and final points score of at least 240 (the equivalent of three grade Cs).

It is clear that the accuracy of the forecast points score was far better for this group of students. The average forecast was slightly optimistic, but only by 6 points (Table 9).

Table 10 shows that almost 47% of the students had a final points score equal to the forecast points score, with 82.2% within 20 points. In terms of absolute differences (Table 11), 39% of forecasts were exactly accurate, and over 70% were within 20 points.

Table 9: Mean accuracy of A level forecast points score

Variable	Mean
Forecast points score	323.88
Final points score	317.70
Actual Difference	-6.18
Absolute difference	20.37

Table 10: Distribution of actual difference between final and forecast points score

Actual Difference	Frequency	Percent
-100	4	0.07
-80	44	0.73
-60	188	3.13
-40	582	9.69
-20	1,309	21.79
0	2,817	46.90
20	810	13.48
40	201	3.35
60	46	0.77
80	14	0.07
100	1	0.02
120	1	0.02

Table 11: Distribution of absolute difference between final and forecast points score

Absolute Difference	Frequency	Percent
0	2,343	39.00
20	1,898	31.60
40	1,207	20.09
60	449	7.47
80	95	1.58
100	11	0.18
120	4	0.07

Table 12: Mean accuracy of A level forecast points score by school type

School type	N	Mean Forecast	Mean Final	Actual Difference	Absolute Difference
Comprehensive	1,657	314.54	305.99	-8.56	24.27
FE College	108	314.81	306.67	-8.15	22.59
Grammar	949	330.73	325.96	-4.76	19.26
Independent	2,070	336.02	332.42	-3.60	15.49
Sixth Form College	1,002	312.14	303.27	-8.86	24.15
Tertiary College	141	307.23	304.68	-2.55	22.98

2.3 Students with a forecast points score of 360 (equivalent to three grade As)

The accuracy of the forecasts for the very highest achieving students was also analysed. For this, only students who were forecast three grade As (360 UCAS points) were selected.

For this group the average forecast was optimistic, by around 8 points (Table 13). This was a larger difference than for students forecast three grade Cs or better (see Table 9). However, it was impossible for *any* of the forecasts to be pessimistic for these students as they were forecast the highest possible combination of grades.

Almost 75% of the forecasts were accurate (Table 14) and over 90% were no more than one grade out (within 20 points).

Table 13: Mean accuracy of A level forecast points score (3 grade A candidates only)

Variable	Mean
Forecast points score	360.00
Final points score	352.32
Actual Difference	-7.68

Table 14: Distribution of actual difference between final and forecast points score (3 grade A candidates only)

Actual Difference	Frequency	Percent
-160	1	0.05
-100	2	0.09
-80	18	0.84
-60	39	1.82
-40	130	6.06
-20	356	16.59
0	1,600	74.56

Table 15: Mean accuracy of A level forecast points score by school type (3 grade A candidates only)

School type	N	Mean Forecast	Mean Final	Actual Difference
Comprehensive	420	360.00	350.00	-10.00
FE College	25	360.00	354.40	-5.60
Grammar	390	360.00	351.85	-8.15
Independent	1,038	360.00	354.41	-5.59
Sixth Form College	232	360.00	347.84	-12.16
Tertiary College	25	360.00	353.60	-6.40