

# GCSE and GCE Chemistry Awarding Summer 2020

## Technical Information CCEA Awarding Organisation

### Introduction

The centre assessment grades for GCSE and GCE Chemistry (AS and A level) are single grades for the entire qualification for each individual student and not a grade at unit level.

You will find more information about the centre assessment grades and rank ordering of students on pages 4-9 of the CCEA awarding organisation *GCSE and GCE Awarding 2020 Technical Information* document. This document was sent to centres on 30th April 2020. A separate document was also issued on this date, CCEA awarding organisation *GCSE and GCE Awarding Technical Information – Supplementary Questions and Answers*.

The purpose of this document is to further exemplify how centres might approach the process of determining centre assessment grades and rank ordering students who were due to cash-in for GCSE Chemistry, AS Chemistry or A Level Chemistry in the Summer 2020 series. For GCSE Chemistry, Centre assessment grades should not be higher than the maximum grade allowable through the combination of Foundation (FT) and Higher Tier (HT) units selected. This document provides centres with information that will support this requirement. It is not intended that the examples in the document would replace methods individual centres are using to derive centre assessment grades and rank orders, but rather to exemplify and support teachers with approaches that could be adopted.

### GCSE Chemistry

#### **Determining the maximum grade achievable by a student through the combination of Foundation and Higher Tier Units selected**

The information below is applicable to a normal examination series, however, it might be helpful for teachers to consider the Uniform Mark Scores (UMS) connected with the units that students have been entered for, provide principles for discussion and inform centres of the maximum grades for various tiering combinations.

Each unit has a maximum uniform mark achievable and that uniform mark will depend on the tier of entry. Foundation Tier units will have a lower maximum uniform mark. Using the student's tier of entry for each individual unit, add the maximum uniform mark achievable for each unit together. The combined total UMS mark can be mapped to the qualification uniform mark grade boundaries to determine the maximum allowable grade.

The following sections indicate uniform mark boundaries and maximum uniform marks at unit level:

**Unit 1** – Structures, Trends, Chemical Reactions, Quantitative Chemistry and Analysis

For written Unit 1, there are 60 raw marks available at Foundation Tier and 80 at Higher Tier.

The **maximum** uniform mark for Unit 1 is 140. The **minimum** uniform mark required for each grade is as follows:

A	B	C*	C	D	E	F	G
112	103	94	84	70	56	42	28

Candidates entering for Foundation Tier can achieve a maximum uniform mark score of 102 in this unit.

**Unit 2** – Further Chemical Reactions, Rates and Equilibrium, Calculations and Organic Chemistry

For written Unit 2, there are 80 raw marks available at Foundation Tier and 100 at Higher tier.

The **maximum** uniform mark for Unit 2 is 160. The **minimum** uniform mark required for each grade is as follows:

A	B	C*	C	D	E	F	G
128	117	108	96	80	64	48	32

Candidates entering for Foundation Tier can achieve a maximum uniform mark score of 116 in this unit.

**Unit 3** – Practical Skills

For practical and written Unit 3, there are 30 raw marks available for Practical Booklet A and 70 raw marks available for Practical Booklet B for both Foundation and Higher Tiers.

The **maximum** uniform mark for Unit 3 is 100. The **minimum** uniform mark required for each grade is as follows:

A	B	C*	C	D	E	F	G
80	73	67	60	50	40	30	20

Candidates entering for Foundation Tier can achieve a maximum uniform mark score of 72 in this unit.

The table below summarises the maximum uniform marks available for each unit which can then be added together to determine the total uniform mark at qualification level which can be used to derive the maximum allowable grade. Examples are given below:

Maximum Uniform Mark		
	Foundation Tier (FT)	Higher Tier (HT)
Unit 1	102	140
Unit 2	116	160
Unit 3 (Booklet A and Booklet B combined)	72	100

### Qualification results

The **maximum** uniform mark for the final award is 400. The **minimum** uniform mark required for each final grade is as follows:

A*	A	B	C*	C	D	E	F	G
373	320	292	268	240	200	160	120	80

\*\* The A\* minimum uniform mark is changeable from year-to-year. The mark in this document reflects the minimum uniform mark boundary from the Summer 2019 series.

#### Example 1:

If a student is entered for FT unit 1 and unit 2 examinations and is entered for HT in the practical unit 3 (This unit must be taken at the same tier for the whole unit including Booklet A and B), the maximum grade they can achieve is calculated as follows:

- Unit 1 - Max uniform mark in unit 1 FT is 102
- Unit 2 - Max uniform mark in unit 2 FT is 116
- Unit 3 - Max uniform mark in unit 3 HT is 100

This means if the student were to attain maximum uniform marks in all 3 units, their total uniform mark score would be 318/400.

This would allow them to attain a Grade B as the uniform mark boundary for a B is 292/400.

#### Example 2:

A student is entered for HT unit 1 and for FT unit 2. The student is entered for HT in the practical unit 3 (This unit must be taken at the same tier for the whole unit including Booklet A and B). The maximum grade they can achieve is calculated as follows:

- Unit 1 - Max uniform mark in unit 1 HT is 140
- Unit 2 - Max uniform mark in unit 2 FT is 116
- Unit 3 - Max uniform mark in unit 3 HT is 100

This means if the student were to attain maximum uniform marks in all 3 units, their total uniform mark score would be 356/400.

This would allow them to attain a Grade A as the uniform mark boundary for an A is 320/400.

## GCE Chemistry

### Uniform Mark Boundaries for individual AS and A2 units and mapping total uniform marks to grade boundaries at qualification level

The information below is applicable to a normal examination series, however, it might be helpful for teachers to consider the Uniform Mark Scores (UMS) connected with individual units, provide principles for discussion and inform centres of the minimum number of uniform marks required to achieve each grade.

Each unit has a maximum uniform mark achievable. Add the maximum uniform mark achievable for each individual candidate depending on ability and ongoing performance in each unit together. The combined total UMS mark can be mapped to the qualification uniform mark grade boundaries to determine the maximum allowable grade.

#### Uniform Marks (UMS)

*Each grade is set at the same percentage of the maximum uniform marks for all modules:*

- *Grade A – 80%*
- *Grade B – 70%*
- *Grade C – 60%*
- *Grade D – 50%*
- *Grade E – 40%*

The table below summarises the minimum number of uniform marks required to achieve each grade for each AS and A2 unit. These can then be added together to determine the total uniform mark at qualification level which can be used to derive the maximum allowable grade for AS or A level.

Unit Level Uniform Mark Grade Boundaries						
	Max	A	B	C	D	E
Unit AS 1	96	77	68	58	48	39
Unit AS 2	96	77	68	58	48	39
Unit AS 3 (Booklet A and Booklet B combined)	48	39	34	29	24	20
<b>Unit A2</b>						
Unit A2 1	144	116	101	87	72	58
Unit A2 2	144	116	101	87	72	58
Unit A2 3 (Booklet A and Booklet B combined)	72	58	51	44	36	29

**Overall Qualification UMS boundaries**

	AS	A Level
<b>Percentage weighting of Qualification (%)</b>	40	60
<b>Maximum Uniform Marks</b>	240	600
<b>A</b>	192	480
<b>B</b>	168	420
<b>C</b>	144	360
<b>D</b>	120	300
<b>E</b>	96	240

Awarding A*:	<p>A* grade will be awarded to candidates who have met both of the following criteria:</p> <ol style="list-style-type: none"> <li>gain an A grade overall at A level; and</li> <li>gain 90%, or more, of the maximum UMS on the combined totals of their A2 units.</li> </ol> <p>A* will be awarded for A level cash-ins only. It will not be awarded at AS cash-in or for individual units.</p>
--------------	--

**Rank Ordering of candidates for GCSE and GCE Chemistry**

Final grades and ranking should be based on a range of evidence from each unit teacher, including mock examinations, non-exam assessment, such as practical assessments, homework assignments and any other record of student performance over the course of study.

There are many models that centres can use to rank order their students and this will be very much dependent on the teaching structure of the specification. One possible method that could be used would be to assign:

Grades A\* – G (A\*, A, B, C\*, C, D, E, F, G and U (for students whose work is below the threshold)) to each **GCSE** student;

Grades A – E (A, B, C, D, E and U) to each **AS** student; and

Grades A\*– E (A\*, A, B, C, D, E and U) to each **A level** student as their centre assessment grade.

The students who were assigned a Grade A should be rank ordered with the highest attaining Grade A student being number 1 and ranking down to the lowest attaining student within the grade boundary. Teachers should revisit the B grade rank order and double check if the top ranked students are placed correctly or should be pulled up into the bottom of the rank order for the higher grade. When coming to their decisions, teachers may find it useful to review this cohort's performance against previous cohorts (eg. % outcomes in previous cohorts at the various grades) and consider ability trends to determine comparable grade outcomes.

The rank order submitted by the school entering the students for the grades, highlighted in the example above, may look like this:

Grade	Rank Order Number	Name
A	1	Mary Smith
	2	John Grimes
	3	Peter Davison
B	1	Bella Wright
	2	Niamh Quinn

This system of rank ordering would need to be done across all the grade boundaries for each qualification and should be standardised across chemistry departments for each different chemistry qualification they teach.

### Further Support

The Association for Science Education (ASE) has put together some support for this process. Professor Christine Harrison has written initial ASE guidance for teachers that you may find useful. See link below:

<https://www.ase.org.uk/news/awarding-of-gcse-gce-grades-2020-initial-ase-guidance>

### Contact Information

If you have any queries regarding the content of this document, please don't hesitate to contact the Subject Officer with responsibility for the specification:

**Elaine Lennox** – Education Manager for Chemistry and Double Award Science

**Email:** [elennox@ccea.org.uk](mailto:elennox@ccea.org.uk)