Guidance on the calculation of overall qualification grades for City & Guilds' Technical Qualifications

Introduction

City & Guilds' Technical Qualifications are graded both for assessments (theory exam and synoptic assignment) and qualifications. The overall qualification grade is based on an aggregation of the candidate's achievement in the mandatory graded assessments (the theory exam(s) and the synoptic assignment(s)).

This document aims to explain how we carry out this aggregation. It is also designed to support a centre to calculate a candidate's final points value for their qualification grade. This may help some centres with candidates on two year qualifications to understand the level of performance required by that candidate to achieve a certain qualification grade in their second year. City & Guilds aggregates its qualification grades based on a weighted points value, as described in our qualification handbooks (Section 7: Grading).

Part 1: Calculating points values for assessments

The mark a candidate achieves in each assessment is converted to a certain number of points. The points are then multiplied by the weighting assigned to that assessment. The weighted points are then added together and converted to a qualification grade using the following scale:

Qualification Grade	Points
Distinction*	20.5
Distinction	17
Merit	11
Pass	6

In this way we can recognise a candidate's achievement in an assessment if they had achieved, for example, a strong pass as opposed to an 'only just' pass.

Worked example of calculating points values:

Below is a worked example for an assessment consisting of 60 marks, with a Pass boundary set at 40% (24/60) and Distinction boundary set at 70% (42/60):

How grades are set
Pass and Distinction grade boundaries are set using expert judges during our awarding process, in this example at 24 and 42.
The Merit grade boundary is set arithmetically, midway between the Distinction and the Pass, rounded down where this is not a whole number.
In this example the Distinction boundary is 42 and the Pass boundary is 24, therefore the Merit boundary is 33.
How points are determined
The Pass grade has 3 different points values (6, 8, 10) with the lowest point value set at the boundary mark.
The Merit grade has 3 different points values (12, 14, 16) with the lowest point value set at the boundary mark.
The Distinction grade has 4 different points values (18, 20, 22, 24) with the lowest point value set at the boundary mark.
To determine where the points values are set for a grade, the mark range for the grade is divided by the number of points values. We refer to the points values as 'intervals'.
In this example:
The Pass grade has a mark range of 9 (24 to 32), divided by the number of points values (3) = 3.   Note that the range here refers to the number of marks that will result in a pass grade, in this case 24, 25, 26, 27, 28, 29, 30, 31 and 32.
Therefore the points values for the Pass grade are set at intervals of 3 marks, in this case 24, 27 and 30 marks. 24 to 26 marks is worth 6 points, 27 to 29 marks is worth 8 points and 30 to 32 marks is worth 10 points.

If there were a remainder of 1 after dividing by 3, this would be added to the highest interval. If the remainder were 2, then 1 would be added to each of the two higher intervals.

The Merit grade has a mark range of 9 (33 to 41), divided by the number of points values (3) = 3.

Therefore the points values for the Merit grade are set at 33, 36 and 39 marks.

Again, if there were a remainder of 1 after dividing by 3, this would be added to the highest interval. If the remainder were 2, then 1 would be added to the two higher intervals.

The Distinction grade has a mark range of 19 (42 to 60), divided by the number of points values (4) = 4 with a remainder of 3.

The remainder is spread equally across the higher point values. Therefore the points values for the Distinction grade are set at 42, 46, 51 and 56 marks.

In summary, candidates who achieve a pass may have achieved a low, medium or high pass (LP, MP or HP). The same pattern applies to Merit. For Distinction there is an additional interval above high distinction known as high high distinction (LD, MD, HD, HHD). We refer to these points values as intervals.

For the above example, the intervals can be presented as follows:

Marks	Interval	Grade	Points
60		Basemark	
56	HHD	Distinction	24
51	HD	Distinction	22
46	MD	Distinction	20
42	LD	Distinction	18
39	HM	Merit	16
36	MM	Merit	14
33	LM	Merit	12
30	HP	Pass	10
27	MP	Pass	8
24	LP	Pass	6

This scale of intervals (LP, MP, HP... etc) and points (6, 8, 10... etc) is common to all Technical assessments. The same principle is applied to all our graded mandatory assessments, which contribute to the overall grade, as detailed in our qualification handbooks:

Awarding grades and reporting results

The overall qualification grade will be calculated based on aggregation of the candidate's achievement in each of the assessments for the mandatory units, taking into account the assessments' weighting. The **Level 3 Advanced Technical Certificate in Engineering** will be reported on a four grade scale: Pass, Merit, Distinction, Distinction*.

All assessments **must** be achieved at a minimum of Pass for the qualification to be awarded. Candidates who fail to reach the minimum standard for grade Pass for an assessment(s) will not have a qualification grade awarded and will not receive a qualification certificate.

The approximate pass grade boundary for the synoptic assignment in this qualification is

Synoptic assignment	Pass mark (%)
031	40%

Please note that each synoptic assignment is subject to an awarding process before final grade boundaries are confirmed.

The contribution of assessments towards the overall qualification grade is as follows:

Assessment method	Grade scale	% contribution
Synoptic Assignment	X/P/M/D	60%
Exam	X/P/M/D	40%

Both synoptic assignments and exams are awarded (see 'Awarding individual assessments', at the start of Section 7, above), and candidates' grades converted to points. The minimum points available for each assessment grade is listed in the table below. A range of points between the Pass, Merit and Distinction boundaries will be accessible to candidates. For example a candidate that achieves a middle to high Pass in an assessment will receive between 8 and 10 points, a candidate that achieves a low to middle Merit in an assessment will receive between 12 and 14 points. The points above the minimum for the grade for each assessment are calculated based on the candidate's score in that assessment.

	Pass	Merit	Distinction
Assignment: 60%	6	12	18
Exam: 40%	6	12	18

The candidate's points for each assessment are multiplied by the % contribution of the assessment and then aggregated. The minimum points required for each qualification grade are as follows:

Qualification Grade	Points
Distinction*	20.5
Distinction	17
Merit	11
Pass	6

Candidates achieving Distinction* will be the highest achieving of the Distinction candidates.

We publish our grade boundaries as part of our examiner reports, and we publish complete lists of candidate achievements, including raw marks along with each set of results, in spring and summer each year.

Part 2: Calculating qualification grades

Using the information from Part 1 a centre can work out exactly what points a candidate achieved and where they ended up in terms of their final qualification grade, and can apply scenarios for a candidate's second year to see what grade outcome they would end up with, based on different levels of achievement in the second year tests.

Example for a candidate half way through a two year qualification:

Sam is a candidate on a two year Level 3 Technical. In his first year, Sam scored highly in his synoptic, but less well in his theory test, as follows:

Synoptic assignment: 53 marks out of 60

Theory test: 25 marks out of 60

The grade boundaries for these assessments were set as follows:

Synoptic assignment: Pass 24, Distinction 42

Theory test: Pass 22, Distinction 40

Therefore Sam's points values in his first year are as follows:

Synoptic assignment:

> Boundaries are set at 24 and 42 for Pass and Distinction.
> The range for Distinction is 19. 19 divided by the number of intervals in the Distinction range (4) is 4, with remainder 3. The remaining 3 marks are split evenly across the higher intervals. Therefore the interval boundaries in the Distinction range are 42 (LD), 46 (MD), 51 (HD), 56 (HHD).
> Therefore Sam falls in the HD interval, which is worth 22 points.

Theory test:

> Boundaries are set at 22 and 40 for Pass and Distinction.
>
> Merit is set arithmetically midway between the Pass and Distinction boundaries, in this case 31.
>
> The range for Pass is therefore 9 marks (the range is the number of marks that would result in a Pass grade, in this case 22, 23, 24, 25, 26, 27, 28, 29 and 30). 9 divided by the number of intervals in the Pass range (3) is 3 with no remainder. Therefore the interval boundaries in the Pass range are 22 (LP), 25 (MP), 28 (HP).
>
> Therefore Sam falls in the MP interval, which is worth 8 points.

If Sam was on a one year qualification, with a weighting of 60% for the assignment, and 40% for the theory test (note that these vary per qualification, and can be found in the relevant qualification handbook), his overall grade would be calculated as follows:

22 points multiplied by 0.6 (60%) = 13.2

8 points multiplied by 0.4 (40%) = 3.2

13.2 + 3.2 = 16.4 points.

This would be a Merit at qualification level, assuming Sam had achieved all other required modules (Employer Involvement and any optional units). However as Sam is on a two year qualification, he still has a further synoptic assignment and theory test to complete. The weightings for the assessments in his two year qualification are as follows (note that these vary per qualification, and can be found in the relevant qualification handbook):

> Synoptic assignment year 1: 30%
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> Synoptic assignment year 2: 30%
>
> Theory test year 1: 20%
>
> Theory test year 2: 20%
>
> Therefore his current points values for the two year qualification are as follows:
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> 22 points multiplied by 0.3 (30%) = 6.6
>
> 8 points multiplied by 0.2 (20%) = 1.6
>
> 6.6 + 1.6 = 8.2 points.

To achieve a Distinction grade, he would need 17 points overall. He would therefore need, for example, a MD (20 points) in his second year synoptic assignment, and a HM (16 points) in his second year theory test. There are many other possible combinations that would lead to different points values.