

Understanding Weighted Total Columns



Blackboard Learn

A weighted total is a calculated column. It calculates a final grade by assigning weights to a student's various assessment grades. This is done to give more or less importance to particular assessments when calculating a final grade. Weights can be assigned to individual columns or they can be assigned to categories of columns. Items that fall into a category can be weighted equally or proportionally. To further explain how weighted totals are calculated, please see our example calculations.



Example 1: A Running Weighted Total Calculation – Equal Weighting

Username	Weighted Total	Total	Participation	Assignment 1	Assignment 2	Test 1	Test 2	Test 3
testhamilton1	87.60%	235.00	80.00 (80.00%)	18.00 (72.00%)	25.00 (100.00%)	40.00 (80.00%)	72.00 (96.00%)	--

In this example, a student's weighted total grade is calculated based on a *running* total. This means that ungraded items are not included in the calculation. Also, this weighted total calculation uses weights by column *and* category.

WEIGHTS BY COLUMN OR CATEGORY		
Participation	(Column)	10% (0.10)
Assignment 1	(Column)	20% (0.20)
Assignment 2	(Column)	30% (0.30)
Tests	(Category)	40% (0.40)
TOTAL		100% (1.0)

In this example, the weight of a category is being distributed *equally* among the graded items. For example, the "Tests" category is worth 40% of the final grade. If the student has only attempted 2 out of 3 tests, then each graded test will equally be worth 20% of the final grade (2 x 20% = 40%).

CALCULATIONS FOR STUDENT'S WEIGHTED TOTAL GRADE

	(A) Percent Grade	(B) Individual Weight	(C) Weighted Score	Grade
Participation	80%	0.10	0.08	
Assignment 1	72%	0.20	0.144	
Assignment 2	100%	0.30	0.3	
Test 1	80%	0.20	0.16	
Test 2	96%	0.20	0.192	
Test 3	--	--	--	
TOTAL		1.0	0.876	87.60%
		(D)	(E)	(F)

Step 1: Weight Each Item's Percent Grade

Formula: $A \times B = C$

Ex: "Participation" Weighted Score
 $(80\%) \times 0.10 = 0.08$

Step 2: Sum the Non-Null Individual Weights

Formula: $\Sigma B = D$

Ex: $0.10 + 0.20 + 0.30 + 0.20 + 0.20 = 1.0$

Step 3: Sum the Weighted Scores

Formula: $\Sigma C = E$

Ex: $0.08 + 0.144 + 0.3 + 0.16 + 0.192 = 0.876$

Step 4: Divide the sum of weighted scores by the sum of individual weights. Then, multiply this value by 100 to get the grade as a percentage.

Formula: $(E/D) \times 100 = F$

Ex: $(0.876/1.0) \times 100 = 87.60\%$

Example 2: A Running Weighted Total Calculation – Proportional Weighting

Username	Weighted Total	Total	Participation	Assignment 1	Assignment 2	Test 1	Test 2	Test 3
testhamilton1	88.24%	235.00	80.00 (80.00%)	18.00 (72.00%)	25.00 (100.00%)	40.00 (80.00%)	72.00 (96.00%)	--

Like the last example, a student's weighted total grade is calculated based on a *running* total and the calculation uses weights by column and category. However, in this particular example, the "Tests" category weight will be distributed among the graded test items *proportionally*.

For example, the "Tests" category is worth 40% of the final grade. Of the items in this category, the student has only been graded on Test 1 and Test 2. Test 1 is worth 50 points and Test 2 is worth 75 points. Because Test 2 is worth more points than Test 1, it will count towards a greater proportion of the "Tests" category weight.

WEIGHTS BY COLUMN OR CATEGORY		
Participation	(Column)	10% (0.10)
Assignment 1	(Column)	20% (0.20)
Assignment 2	(Column)	30% (0.30)
Tests	(Category)	40% (0.40)
TOTAL		100% (1.0)

The individual proportional weight of a graded item in a category is based on this formula:

(Graded Item's Points Possible/Total Points Possible of All Graded Items in the Category)*Category Weight

Example: Test 1's Weight: $(50/125) \times 40\% = 16\%$

GRADED TESTS	Points Possible	Weights
Test 1 (Category: Test)	50	16% (0.16)
Test 2 (Category: Test)	75	24% (0.24)
TOTAL FOR CATEGORY	125	40% (0.40)

CALCULATIONS FOR STUDENT'S WEIGHTED TOTAL GRADE

	(A) Percent Grade	(B) Individual Weight	(C) Weighted Score	Grade
Participation	80%	0.10	0.08	
Assignment 1	72%	0.20	0.144	
Assignment 2	100%	0.30	0.3	
Test 1	80%	0.16	0.128	
Test 2	96%	0.24	0.2304	
Test 3	--	--	--	
TOTAL		1.0	0.8824	88.24%

(D) ↑ (E) ↑ (F) ↑

Step 1: Calculate each categorized item's individual proportional weight (see formula and example above).

Step 2: Weight Each Item's Percent Grade

Formula: $A \times B = C$

Ex: "Test 1" Weight:
 $(80\%) \times 0.16 = 0.128$

Step 2: Sum the Non-Null Individual Weights

Formula: $\Sigma B = D$

Ex: $0.10 + 0.20 + 0.30 + 0.16 + 0.24 = 1.0$

Step 3: Sum the Weighted Scores

Formula: $\Sigma C = E$

Ex: $0.08 + 0.144 + 0.3 + 0.128 + 0.2304 = 0.8824$

Step 4: Divide the sum of weighted scores by the sum of individual weights. Then, multiply this value by 100 to get the grade as a percentage.

Formula: $(E/D) \times 100 = F$

Ex: $(0.8824/1.0) \times 100 = 88.24\%$