Calculate Averages in the Gradebook

There are four ways teachers can calculate averages in the gradebook:

- weighted categories
- weighted categories and assignments
- total points only
- category total points

Determine which system you use, and then set your gradebook preferences to indicate your grading system to Aspen.

Aspen needs this information to help you create your categories and assignments, and calculate averages. The value you select when you set your gradebook preferences becomes your default averaging mode. Then, you can define a different averaging mode for different course sections.

Calculating Averages Using Weighted Categories

- Each assignment is converted to a percentage.
- **Assignments averaged...** Assignments are averaged within each category.
- **Categories weighted...** Averages from each category are then multiplied by their given weight and added to find the term average.

Example for a single student:

Homework Category: (Weight: 25)	Quizzes Category: (Weight: 25)	Tests Category: (Weight: 50)
HW 1: 9 of 10 = 90%	Quiz 1: 100 of 100 = 100%	Test 1: 80 of 100 = 80%
HW 2: 10 of 10 = 100%	Quiz 2: 75 of 100 = 75%	Test 2: 94 of 100 = 94%
HW 3: 9 of 10 = 90%	Quiz 3: 80 of 100 = 80%	Test 3: 90 of 100 = 90%
HW 4: 10 of 10 = 100%		
HW average:(90+100+90+100)/4 = 95%	Quiz average: (100+75+80)/3 = 85%	Test average: (80+94+90)/3 = 88%

Aspen uses the following formula to calculate the term average using weights:

(95 x 25/100) + (85 x 25/100) + (88 x 50/100) = 89%

Follett
V 5.0

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Calculating Averages Using Weighted Categories and Assignments

- Each assignment is converted to a percentage.
- **Assignments weighted first...** Assignments are multiplied by their given weight and then added to calculate the category average.
- **Categories weighted second...** Category averages are then multiplied by their given weight and added to get the term average.

Example for a single student:

Homework Category (Weight: 25)	Quizzes Category (Weight: 25)	Tests Category (Weight: 50)
HW 1(wt=1): 9 of 10 = 90%	Quiz 1(wt=1): 100 of 100 = 100%	Test 1(wt=1): 80 of 100 = 80%
HW 2(wt=1): 10 of 10 = 100%	Quiz 2(wt=1): 75 of 100 = 75%	Test 2(wt=1): 94 of 100 = 94%
HW 3(wt=1): 9 of 10 = 90%	Quiz 3(wt=1): 80 of 100 = 80%	Test 3(wt=2): 90 of 100 = 90%
HW 4(wt=2): 10 of 10 = 100%		
HW average: 96%	Quiz average: 85%	Test average: 88.5%

Aspen uses the following formula to calculate the average:

The system weights assignments first:

HW: (90 x 1/5) + (100 x 1/5) + (90 x 1/5) + (100 x 2/5) = 96%

Quiz: (100 x 1/3) + (75 x 1/3) + (80 x 1/3) = 85%

Test: (80 x 1/4) + (94 x 1/4) + (90 x 2/4) = 88.5%

The system then weights category averages just like the Categories Only option:

(96 x 1/4) + (85 x 1/4) + (88.5 x 1/2) = 89.5%

Calculating Averages Using Total Points Only

- Assignments are NOT converted to percentages.
- **Points earned...** All points a student receives for each assignment are added together.
- **Points possible...** Total points possible for each assignment are added together.
- The term average for a student is the sum of the points earned divided by the sum of the points possible.

Example for a single student:

Homework Category	Quizzes Category	Tests Category
HW 1: 10 of 10	Quiz 1: 50 of 50	Test 1: 80 of 100
HW 2: 9 of 10	Quiz 2: 42 of 50	Test 2: 94 of 100
HW 3: 15 of 20	Quiz 3: 48 of 50	Test 3: 180 of 200
HW 4: 4 of 5		
HW total points earned: 38 HW total points possible: 45	Quiz total points earned: 140 Quiz total points possible: 150	Test total points earned: 354 Test total points possible: 400

Aspen uses the following formula to calculate the term average using Total Points Only:

38 + 140 + 354 =532= 89.4%

45 + 150 + 400 = 595

Calculating Averages Using Category Total Points

- Assignments are NOT converted to percentages.
- **Points earned...** Within each category, the points a student receives are added together.
- **Points possible...** Within each category, the total points possible are added together.
- Each category average is the sum of the points earned divided by the sum of points possible.
- **Categories weighted...** Category averages are then multiplied by their given weight and added to find the term average.

Example for a single student:

Homework Category (Weight: 25)	Quizzes Category (Weight: 25)	Tests Category (Weight: 50)
HW 1: 10 of 10	Quiz 1: 50 of 50	Test 1: 80 of 100
HW 2: 9 of 10	Quiz 2: 42 of 50	Test 2: 94 of 100
HW 3: 15 of 20	Quiz 3: 48 of 50	Test 3: 180 of 200
HW 4: 4 of 5		
HW total points earned: 38 HW total points possible: 45	Quiz total points earned: 140 Quiz total points possible: 150	Test total points earned: 354 Test total points possible: 400
HW average: 38/45 = 84.4%	Quiz average: 140/150 = 93.3%	Test average: 354/400 = 88.5%

Aspen uses the following formula to calculate the term average using Category Total Points:

(84.4 x 25/100) + (93.3 x 25/100) + (88.5 x 50/100) =88.7%