

Appendix A – Understanding Average Modes

A.1 Averaging Mode #1: Categories only (weighted categories)

This mode requires you to define:

- A weight for each category in Gradebook > Details > expand the Categories section. See section 14 for details.

To calculate an average Aspen does the following in this order:

1. Each **assignment score is converted into a percentage**.
2. Assignment **percentages are averaged within each category**. (Assignment percentages are added together and multiplied by the total number of assignments in the category)

<i>Reasoning and Analyzing</i> RA Category: (Weight: 25)	<i>Understanding and Solving</i> US Category: (Weight: 25)	<i>Communicating and Representing</i> CR Category: (Weight: 50)
RA 1: 10 of 10 = 100%	US 1: 50 of 50 = 100%	CR 1: 80 of 100 = 80%
RA 2: 9 of 10 = 90%	US 2: 42 of 50 = 84%	CR 2: 94 of 100 = 94%
RA 3: 15 of 20 = 75%	US 3: 48 of 50 = 96%	CR 3: 180 of 200 = 90%
RA 4: 4 of 5 = 80%		
RA Average: $(100+90+75+80)/4 = 86.25\%$	US Average: $(100+84+96)/3 = 93.33\%$	CR Average: $(80+94+90)/3 = 88\%$

3. **Category averages are weighted**. (The category average is multiplied by the weight given to the category.)
4. **Calculate Average**. Calculated category averages are added together.

$$(86.25 \times 25/100) + (93.33 \times 25/100) + (88 \times 50/100) = 88.89\%$$

A.2 Averaging Mode #2: Categories and assignments (weighted)

This mode requires you to define:

- A weight for each category in Gradebook > Details > expand the Categories section. See section 14 for details.
- A weight for each assignment in Gradebook > Assignment > Details. See section 15 for details.

To calculate an average Aspen does the following in this order:

1. Each **assignment score is converted into a percentage.**
2. **Assignments are weighted.** Assignment percentages are multiplied by the weight given to the assignment.
3. **Categories are Averaged.**

$$\text{HW: } (100 \times 2/5) + (90 \times 1/5) + (75 \times 1/5) + (80 \times 1/5) = 89\%$$

$$\text{Quiz: } (100 \times 1/3) + (84 \times 1/3) + (96 \times 1/3) = 93.33\%$$

$$\text{Test: } (80 \times 1/5) + (94 \times 2/5) + (90 \times 2/5) = 89.6\%$$

<i>Reasoning and Analyzing</i> RA Category: (Weight: 25)	<i>Understanding and Solving</i> US Category: (Weight: 25)	<i>Communicating and Representing</i> CR Category: (Weight: 50)
RA 1 (wt=2): 10 of 10 = 100%	US 1 (wt=1): 50 of 50 = 100%	CR 1 (wt=1): 80 of 100 = 80%
RA 2 (wt=1): 9 of 10 = 90%	US 2 (wt=1): 42 of 50 = 84%	CR 2 (wt=2): 94 of 100 = 94%
RA 3 (wt =1): 15 of 20 = 75%	US 3 (wt=1): 48 of 50 = 96%	CR 3 (wt=2): 180 of 200 = 90%
RA 4 (wt=1): 4 of 5 = 80%		
RA Average: 89.00%	US Average: 93.33%	CR Average: 89.60%

4. **Category averages are weighted.** (The category average is multiplied by the weight given to the category.)

$$(89 \times 1/4) + (93.33 \times 1/4) + (89.60 \times 1/2) = 90.38\%$$

5. **Calculate Average.** Calculated category averages are added together.

A.3 Averaging Mode #3: Total points

This mode requires you to define:

- A point value for each assignment in the Assignment Details (Required Field)

To calculate an average Aspen does the following in this order:

(Assignments are NOT converted to a percentage)

1. **Calculate Points Earned.** All points a student receives for each assignment are added together.
2. **Calculate Points Possible.** Total Points Possible for all assignments are added together.
3. **Calculate Average.** Total Points Earned is divided by Total Points Possible.

<i>Reasoning and Analyzing</i> RA Category:	<i>Understanding and Solving</i> US Category:	<i>Communicating and Representing</i> CR Category:
RA 1: 10 of 10	US 1: 50 of 50	CR 1: 80 of 100
RA 2: 9 of 10	US 2: 42 of 50	CR 2: 94 of 100
RA 3: 15 of 20	US 3: 48 of 50	CR 3: 180 of 200
RA 4: 4 of 5		
RA Total points earned: 38 Total points possible: 45	US Total points earned: 140 Total points possible: 150	CR Total points earned: 354 Total points possible: 400

$$\text{Total Points Earned: } 38 + 140 + 354 = 532$$

$$\text{Total Points Possible: } 45 + 150 + 400 = 595$$

$$532/595 = 89.41 \%$$

A.4 Averaging Mode #4: Category total points

This mode requires you to define:

- A point value for each assignment in the Assignment Details (Required Field)

To calculate an average Aspen does the following in this order:

(Assignments are NOT converted to a percentage)

1. **Calculate Category Points Earned.** The points a student receives for each assignment in a category are added together.
2. **Calculate Points Possible.** The Total Points Possible for each assignment in a category are added together.
3. **Categories are Averaged.**

Homework: 38/45 = 84.44 Quiz: 140/150 = 93.33 Test: 354/400 = 85.5

<i>Reasoning and Analyzing</i> RA Category: (Weight: 25)	<i>Understanding and Solving</i> US Category: (Weight: 25)	<i>Communicating and Representing</i> CR Category: (Weight: 25)
RA 1: 10 of 10	US 1: 50 of 50	CR 1: 80 of 100
RA 2: 9 of 10	US 2: 42 of 50	CR 2: 94 of 100
RA 3: 15 of 20	US 3: 48 of 50	CR 3: 180 of 200
RA 4: 4 of 5		
RA Average: 38/45 84.44%	US Average: 140/150 93.33%	CR Average: 354/400 88.5%

4. **Categories are Weighted.** Category Averages are multiplied by the weight given to the category.

$$(84.44 \times 25/100) + (93.33 \times 25/100) + (88.5 \times 50/100) = 88.69\%$$

5. **Calculate Average.** Calculated category averages are added together.