

Refresher for Grade Calculations

For each of your classes, you must consider how you calculate grades, considering marking column averages, category averages, category versus assignment factors, and extra credit.

Calculating Marking Column Averages by Category Averages or Total Points

For each category in a marking column and class, you designate whether to calculate the marking column average by total points or category averages by marking or unmarking the **Use Categories to determine Marking Column Grade** checkbox on the Categories page.

Using Category Averages

If you mark **Use Categories to determine Marking Column Grade**, the program uses category averages and category factors to determine the marking column average.

For example, here are 3 category averages and factors for a student.

Category	Category Average	Category Factor	Percent of Grade
Homework	83	1	25%
Quiz	93	1	25%
Test	92	2	50%

The calculation is:

$$\frac{\sum (CategoryAverage \times CategoryFactor)}{\sum CategoryFactors}$$

In this example, this equals a grade of 90:

$$\frac{(83 \times 1) + (93 \times 1) + (92 \times 2)}{1 + 1 + 2} = 90$$

Using Total Points

If you do not mark **Use Categories to determine Marking Column Grade**, only assignment grades are used to determine the marking column average.

For example, here are five assignment grades for a student.

Category	Assignment	Grade	Max Points	Factor
HW	Homework 1	9	10	1
HW	Homework 2	7	10	2
HW	Homework 3	15	20	1
Test	Test 1	17	25	2
Test	Test 2	34	50	1

The calculation is:

$$\frac{\sum (NumericGrade \times AssignmentFactor)}{\sum (MaxPts \times AssignmentFactor)}$$

In this example, this equals a grade of 70.7:

$$\frac{(9 \times 1) + (7 \times 2) + (15 \times 1) + (17 \times 2) + (34 \times 1)}{(10 \times 1) + (10 \times 2) + (20 \times 1) + (25 \times 2) + (50 \times 1)} = \frac{106}{150} = 0.707 = 70.7$$

Calculating Category Averages by Total Points or Percentages

If you define categories, you need to designate how to calculate category averages. In the **Calculation Type** column in the categories grid, you select how to average assignments in the category, either "Using Total Points" or "Using Percentages".

For example, a student has the following homework grades:

Assignment	Grade	Maximum Point	Assignment Factor
Homework 1	9	10	1
Homework 2	7	10	2
Homework 3	15	20	1

Using Total Points

The program calculates the category average by dividing the total points received by the total points possible.

$$\frac{\sum (\text{NumericGrade} \times \text{AssignmentFactor})}{\sum (\text{MaxPts} \times \text{AssignmentFactor})}$$

In this example, this equals a grade of 76.0:

$$\frac{(9 \times 1) + (7 \times 2) + (15 \times 1)}{(10 \times 1) + (10 \times 2) + (20 \times 1)} = \frac{38}{50} = 0.76 = 76.0$$

Using Percentages

The program calculates the category average by totaling the percentage grades and dividing by the number of grades included.

$$\frac{\sum \left(\frac{\text{NumericGrade}}{\text{MaxPts}} \times \text{AssignmentFactor} \right)}{\sum \text{AssignmentFactor}}$$

In this example, this equals a grade of 76.25:

$$\frac{\left(\frac{9}{10} \right) + 2 \left(\frac{7}{10} \right) + \left(\frac{15}{20} \right)}{1 + 2 + 1} = 0.7625 = 76.25$$

Using Category Factors or Assignment Factors

Consider how you weigh grades to determine how to use category and assignment factors.

If you use category averages to calculate the marking column average, when you set up categories, you enter factors to designate the percentage of each category average in the marking column average calculation. For example, you can enter a higher factor for the Test category than the Homework category when defining categories. Therefore, when entering assignments, you do not need to enter an assignment factor that weighs an assignment in the Test category more than an assignment in the Homework category. Only increase the assignment factor to have an assignment grade count as more than one assignment grade in the category average calculation. For example, you can count one Test more than another Test.

If you use total assignment points to calculate the marking column average, use assignment factors to weigh assignments differently.

Awarding Extra Credit

Consider if you want to track extra credit and the method to use. There are a few methods you can use to award extra points to specific students.

Entering points over the assignment's maximum points

You can enter more than the maximum points for an assignment to award extra credit.

Entering points for an assignment with zero maximum points

If you are calculating grades based on total points, you can enter zero as the maximum points of an assignment. Any points you enter for the assignment grade count as extra credit.

This method is possible only if (1) you are using only assignment grades to calculate the marking column average or (2) you are using category averages to calculate the marking column average and the calculation type for the category is Using Total Points.

You should enter numeric grades only. In this case, letter grades do not translate to numeric grades. A letter grade for an assignment with zero maximum points equals a 0/0 grade.

Creating a category to track extra credit

If you use category averages to calculate marking column averages, you can create a graded category to track extra credit points, regardless of whether Using Total Points or Using Percentages is the calculation type. With this method, you must manually track the points in the category average and add them to the marking column grade at the end of the marking column.

Enter a factor of zero for the category to exclude the category from automatic calculations. Create assignments in the category to track extra credit tasks. Enter extra credit points as assignment grades. When entering points, manually update the total number of extra credit points in the category average column. At the end of the marking column, manually update the Extra Credit category average of the category a final time and manually add the total extra credit points to the marking column grade.