



FoxTALE Advanced Grades (weighted categories)

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FoxTALE Grade Book

You can use FoxTALE as your grade book. Students can log in and see their grades. Grades are protected so that a student can only see his or her grades. FoxTALE activities are graded through FoxTALE, but you can also enter grades for activities that occur outside of FoxTALE.

Your grade book can have weighted categories. For example, your course's final grade is comprised of 40% Quizzes and 60% Research Project. This document describes procedures for setting up weighted categories. See the *FoxTALE Basic Grades* document for an introduction to the FoxTALE grade book.

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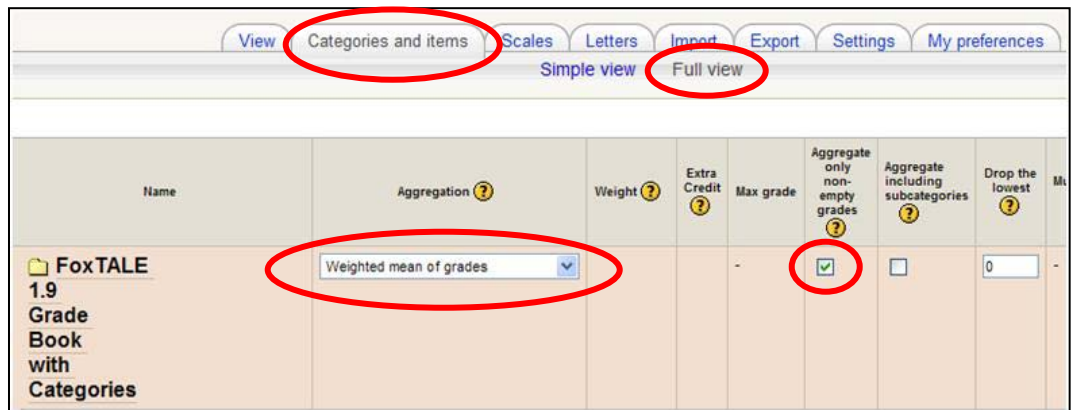
Adding Weighted Categories to Your Grade Book

An example of the use of weighted categories is a final grade comprised of 60% research project and 40% quizzes. If you have such a grading scheme, then you'll need to set up categories such as "Research Project" and "Quizzes."

Note: Students can earn more than 100% for an individual assignment, a category total, or the course total. You can enter grades larger than 100% and offer extra credit.

Set the Course Aggregation

1. In the **Grades** module, choose the **Categories and items** page tab.
2. Click the hand with pencil icon to the right of the course level folder.
3. In the **Aggregation** column, set the **Aggregation** for the course level folder at the top to **Weighted Mean of Grades**.
4. Click the **Full view** link, and check the box for **Aggregate only non-empty grades**. Save your changes.



Add Categories

1. In the **Grades** module, choose the **Categories and items** page tab.
2. Click **Add category** at the bottom.
3. Enter the category name, and choose an aggregation method for this category. If you are undecided about the aggregation method, use the default **Simple**



weighted mean of grades. (points earned out of possible points) For more information on aggregation methods, see *Setting Aggregation Methods* in this documentation.

4. Click **Save changes**.
5. Click **Full view**. Check the **Aggregate only non-empty grades** box for this category.
6. Enter the **Weight** as a whole number, and click **Save changes** at the bottom. In this example, the **Quizzes** category comprises 40% of the course grade.

Name	Aggregation ?	Weight ?	Extra Credit ?	Max grade	Aggregate only non-empty grades ?
FoxTALE 1.9 Grade Book with Categories	Weighted mean of grades			-	<input checked="" type="checkbox"/>
Quizzes	Simple weighted mean of grades	40.0000		-	<input checked="" type="checkbox"/>

Move Items into Categories

1. In the **Grades** module, select the **Categories and items** page tab.
2. Move each activity up or down into its category folder by using the **Move** icon to the right of the activity. In this example, **FoxTALE 1.9 Grade Book with Categories** is the course folder, and **Quizzes** and **Research Project** are the categories.





Name	Aggregation ?	Weight ?	Extra Credit ?	Max grade	Actions	Select
FoxTALE 1.9 Grade Book with Categories	Weighted mean of grades			-		All None
Quizzes	Simple weighted mean of grades	40.0000		-		All None
<input checked="" type="checkbox"/> Quiz 1	-		<input type="checkbox"/>	10.00		<input type="checkbox"/>
<input checked="" type="checkbox"/> Quiz 2	-		<input type="checkbox"/>	10.00		<input type="checkbox"/>
Take Home Quiz	-		<input type="checkbox"/>	15.00		<input type="checkbox"/>
\bar{x} Category total	-			35.00		
Research Project	Simple weighted mean of grades	60.0000		-		All None
Current Events	-		<input type="checkbox"/>	10.00		<input type="checkbox"/>
Research Proposal	-		<input type="checkbox"/>	10.00		<input type="checkbox"/>

- 3. **Alternative method:** If you set up categories before you set up the activities, you can set the category when you create the assignment, forum, or quiz. At the bottom of the set up screen, you'll see the **Grade category** under **Common module settings**.

Common module settings

Group mode ? No groups

Visible Show

ID number ?

Grade category Quizzes

Setting the Aggregation Method for the Course and for a Category

FoxTALE allows you to determine how the grades are aggregated (calculated) for a category and for the entire course.

**Navigation: Grades > Categories and items** page tab

You can update the aggregation for the overall course and for each category in the **Aggregation** column.

Recommended aggregations for a weighted category grading scheme:

- Course: Weighted mean of grades. (You assign weights to each category.)
- Categories: Simple weighted mean of grades. (Items within the category are weighted according to their point value.)

Name	Aggregation ?	Weight ?	Extra Credit ?	Max grade	Actions	Select
FoxTALE 1.9 Grade Book with Categories	Weighted mean of grades			-		All None
Quizzes	Simple weighted mean of grades	40.0000		-		All None
<input checked="" type="checkbox"/> Quiz 1	-		<input type="checkbox"/>	10.00		<input type="checkbox"/>
<input checked="" type="checkbox"/> Quiz 2	-		<input type="checkbox"/>	10.00		<input type="checkbox"/>
Take Home Quiz	-		<input type="checkbox"/>	15.00		<input type="checkbox"/>
Category total	-			35.00		
Research Project	Simple weighted mean of grades	60.0000		-		All None

For any category or for the course, click the yellow question mark icon to the right of **Aggregation** to see this list of aggregation methods:

Mean of grades

(All items weighted equally.) The sum of all grades divided by the total number of grades.

A1 70/100, A2 20/80, A3 10/10, category max 100:

$$(0.7 + 0.25 + 1.0)/3 = 0.65 \rightarrow 65/100$$

Weighted mean

Each grade item can be given a weight, which is then used in the arithmetic mean aggregation to influence the importance of each item in the overall mean. You must enter item weights for each activity.

A1 70/100 weight 10, A2 20/80 weight 5, A3 10/10 weight 3, category max 100:

$$(0.7*10 + 0.25*5 + 1.0*3)/18 = 0.625 \rightarrow 62.5/100$$



Simple weighted mean

(Points earned / Points available) The difference from Weighted mean is that weight is calculated as Maximum grade - Minimum grade for each item. 100 point assignment has weight 100; 10 point assignment has weight 10.

$$\begin{aligned} & \text{A1 } 70/100, \text{ A2 } 20/80, \text{ A3 } 10/10, \text{ category max } 100: \\ & (0.7*100 + 0.25*80 + 1.0*10)/190 = 0.526 \rightarrow 52.6/100 \end{aligned}$$

Mean of grades (with extra credits)

Arithmetic mean with a twist. An old, now unsupported aggregation strategy provided here only for backward compatibility with old activities.

Median of grades

The middle grade (or the mean of the two middle grades) when grades are arranged in order of size. The advantage over the mean is that it is not affected by outliers (grades which are uncommonly far from the mean).

$$\begin{aligned} & \text{A1 } 70/100, \text{ A2 } 20/80, \text{ A3 } 10/10, \text{ category max } 100: \\ & 0.7 + 0.25 + 1.0 \rightarrow 0.25 \rightarrow 25/100 \end{aligned}$$

Smallest grade

The result is the smallest grade after normalization. It is usually used in combination with Aggregate only non-empty grades.

$$\begin{aligned} & \text{A1 } 70/100, \text{ A2 } 20/80, \text{ A3 } 10/10, \text{ category max } 100: \\ & \min(0.7 + 0.25 + 1.0) = 0.25 \rightarrow 25/100 \end{aligned}$$

Highest grade

The result is the highest grade after normalization.

$$\begin{aligned} & \text{A1 } 70/100, \text{ A2 } 20/80, \text{ A3 } 10/10, \text{ category max } 100: \\ & \max(0.7 + 0.25 + 1.0) = 1.0 \rightarrow 100/100 \end{aligned}$$

Mode of grades

The mode is the grade that occurs the most frequently. It is more often used for non-numerical grades. The advantage over the mean is that it is not affected by outliers (grades which are uncommonly far from the mean). However it loses its meaning once there is more than one most frequently occurring grade (only one is kept), or when all the grades are different from each other.

$$\begin{aligned} & \text{A1 } 70/100, \text{ A2 } 35/50, \text{ A3 } 20/80, \text{ A4 } 10/10, \text{ A5 } 7/10 \\ & \text{category max } 100: \\ & \text{mode}(0.7; 0.7; 0.25; 1.0; 0.7) = 0.7 \rightarrow 70/100 \end{aligned}$$

Sum of grades (Use if you have Extra Credit)

The sum of all grade values. This is the only type that does not convert the grades to percentages internally (normalization). The Maximum grade of associated category item is calculated automatically as a sum of



maximums from all aggregated items.

A1 70/100, A2 20/80, A3 10/10:

$70 + 20 + 10 = 100/190 = 0.526 \rightarrow 52.6/100$

Advanced Calculations

If you do not like the aggregation methods provided by Moodle, then you can set up your own calculation for a category total or for the course total. (**Note:** For weighted categories as described above, you do not need to do these steps.)

1. In the **Grades** module, select the **Categories and items** page tab.
2. Click the calculator icon on the right of the **Course total** row. (or Category total for a category)

Research Project		Simple weighted mean of grades	60.0000	-			All None
Current Events	-			<input type="checkbox"/>	10.00		<input type="checkbox"/>
Research Proposal	-			<input type="checkbox"/>	10.00		<input type="checkbox"/>
Journal 1 - Getting to Know Me	-			<input type="checkbox"/>	20.00		<input type="checkbox"/>
Class Presentation	-			<input type="checkbox"/>	30.00		<input type="checkbox"/>
\bar{x} Category total	-				70.00		
<input checked="" type="checkbox"/> Multiple Short Answer	-	0.0000			10.00		<input type="checkbox"/>
\bar{x} Course total	-				100.00		

3. In the **Id numbers** section, enter a short alphanumeric id number for the category total for each category. An Id number is like a nickname. In this example, Q is entered for Quizzes, and RP is entered for Research Projects. Click **Add id numbers** when you are done.



Grade Item

Item name
Calculation

Save c

Id numbers

- FoxTALE 100
 - Course total
 - Research Proposal
 - Quizzes
 - Category total: Q
 - Quiz 1
 - Quiz 2
 - Take Home Quiz
 - Research Project
 - Category total: RP
 - Current Events
 - Journal 1 - Getting to Know Me
 - Class Presentation: [[63324]]
 - Final Project Paper

Add id numbers

Enter a short alphanumeric id number for each category or item to be used in the calculation.

4. After saving the id numbers, you'll see them enclosed with [[brackets]].

Id numbers

- FoxTALE 100
 - Course total
 - Research Proposal
 - Quizzes
 - Category total: [[Q]]
 - Quiz 1
 - Quiz 2
 - Take Home Quiz
 - Research Project
 - Category total: [[RP]]
 - Current Events
 - Journal 1 - Getting to Know Me
 - Class Presentation: [[63324]]
 - Final Project Paper

5. In the **Calculation** field, enter the formula for calculating the weighted course total grade. This example shows an average where Research Projects are counted twice, and Quizzes are counted once. The formula is similar to a spreadsheet formula and must begin with =. Use the id numbers enclosed by double brackets to refer to the category totals.


Calculation Example

=average([[RP]],[[RP]],[[Q]])



Grade item

Item name









Calculation  =average ([[RP]], [[RP]], [[Q]])

Enter your formula, and click **Save changes**. Click on the yellow question mark next to **Calculation** for more information.

Bonus Points on an Activity (Offset)

If you want to give all students extra points on a particular activity, you can add an offset. Note that the offset could give some students grades over 100% for the activity.

1. Go to **Grades > Categories and items** page tab.
2. Click the **Full view** link.
3. Enter the number of bonus points in the **Offset** field to the right of the activity. This number will be added to everyone's grade for that activity.

Name	Aggregation 	Weight 	Extra Credit 	Max grade	Aggregate only non-empty grades 	Aggregate including subcategories 	Drop the lowest 	Multiplicator 	Offset 
FoxTALE 1.9 Grade Book with Categories	Weighted mean of grades			-	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	-	-
Quizzes	Simple weighted mean of grades	40.0000		-	<input type="checkbox"/>	<input type="checkbox"/>	0	-	-
<input checked="" type="checkbox"/> Quiz 1	-		<input type="checkbox"/>	10.00	-	-	-	1.0000	0.0000
<input checked="" type="checkbox"/> Quiz 2	-		<input type="checkbox"/>	10.00	-	-	-	1.0000	0.0000
<input checked="" type="checkbox"/> Take Home Quiz	-		<input type="checkbox"/>	15.00	-	-	-	1.0000	2.0000



Extra Credit

You can create an extra credit assignment, or you can enter extra points on an existing assignment. The grade for an individual assignment, category, or course total can go over 100%.

If you want to create an extra credit assignment in a category:

1. Set the Category's **Aggregation** to **Sum of Grades** or **Simple weighted mean of grades**.
Navigation: **Grades > Categories and items** page tab.
2. From the course home page, create the extra credit assignment, and assign it to the category.

Navigation for setting the category: Either method 1 or method 2.

1. When you set up the assignment, choose the **Grade category** at the bottom of the assignment setup page.

OR

2. Go to **Grades > Categories and items** page tab. Move the extra credit activity into the category's folder by using the **Move** icon.



3. Check the extra credit activity's **Extra Credit** box.

Navigation: **Grades > Categories and items** page tab > Check the Extra Credit Box.

You can also set the multiplier for an extra credit item.

Navigation: **Grades > Categories and items** page tab > Click **Full view** and see the Multiplier column.

If a student earns 5 points and the multiplier is set to 1, then the student gets 5 extra points in the category. If the multiplier is set to 2, then the student would get 10 extra points in the category.



Rounding Grade Calculations

FoxTALE uses five decimal places in performing all grade calculations. Even if you choose to display fewer decimal places, all five decimal places will be used for grade calculations.

What do students see?

Students can click the **Grades** link in the **Administration** block of the course.

Each student will see his or her **User report**, which shows a list of his or her grades and feedback for each graded activity, category totals, and the course total. The student can click on the activity to see the activity details and instructions.

For a grade book with categories, each student will see his or her grades for each category.

The screenshot shows a user report interface with a 'View' button and two tabs: 'Overview report' and 'User report'. Below the tabs is a table with the following data:

Grade item	Grade	Range	Percentage	Feedback
FoxTALE 1.9 Grade Book with Categories				
Quizzes				
Quiz 1	4.00	0.00–10.00	40.00 %	
Quiz 2	5.00	0.00–10.00	50.00 %	
Take Home Quiz	15.00	0.00–15.00	100.00 %	good
\bar{x} Category total	24.00	0.00–35.00	68.57 %	
Research Project				
Current Events	9.00	0.00–10.00	90.00 %	
Research Proposal	-	0.00–10.00	-	
Journal 1 - Getting to Know Me	17.00	0.00–20.00	85.00 %	nice job
Class Presentation	27.00	0.00–30.00	90.00 %	showed improvement
\bar{x} Category total	61.83	0.00–70.00	88.33 %	
\bar{x} Course total	80.43	0.00–100.00	80.43 %	