NCKU Moodle Instruction Manual – Grade Aggregation

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I. Grade Aggregation

The aggregation determines how grades in a category are combined, such as

- **Mean of grades**
  The sum of all grades divided by the total number of grades.
  For example:
  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 of grades**
  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.
  For example:
  A1 70/100 weight 10, A2 20/80 weight 5, A3 10/10 weight 3, category max 100:
  \[(0.7*10 + 0.25*5 + 1.0*3)/18 = 0.625 \rightarrow 62.5/100\]

- **Weighted sum of grades**
  Each grade item can be given a weight and get the sum of them.
  For example:
  A1 70/100 weight 10, A2 20/80 weight 5, A3 10/10 weight 3, category max 100:
  \[(0.7*10 + 0.25*5 + 1.0*3) = 11.25 \rightarrow 11.25/100\]

- **Sum of grades**
  The sum of all grade values.
  For example:
  A1 70/100, A2 20/80, A3 10/10:
  \[70 + 20 + 10 = 100/190\]

- **Mean of grades (with extra credits)**
  A value greater than 0 treats a grade item's grades as extra credit during aggregation. The number is a factor by which the grade value will be multiplied before it is added to the sum of all grades, but the item itself will not be counted in the division.
  For example:
  Item 1 is graded 0-100 and its "Extra credit" value is set to 2
  Item 2 is graded 0-100 and its "Extra credit" value is left at 0.0000
  Item 3 is graded 0-100 and its "Extra credit" value is left at 0.0000
  All 3 items belong to Category 1, which has "Mean of grades (with extra credits)" as its aggregation strategy

  A student gets graded 20 on Item 1, 40 on Item 2 and 70 on Item 3

  The student's total for Category 1 will be 95/100 since \[20*2 + (40 + 70)/2 = 95\]
- Lowest grades
  The result is the smallest grade after normalization.
  For example:
  A1 70/100, A2 20/80, A3 10/10, category max 100:
  \[ \min(0.7 + 0.25 + 1.0) = 0.25 \rightarrow 25/100 \]

- Highest grades
  The result is the highest grade after normalization.
  For example:
  A1 70/100, A2 20/80, A3 10/10, category max 100:
  \[ \max(0.7 + 0.25 + 1.0) = 1.0 \rightarrow 100/100 \]

II. Categories and Items

1. Simple view

Click “Categories and Items” tag → Simple view
(1) Aggregation
The aggregation determines how grades in a category are combined.

(2) Grade category
This block classify the calculate methods. Each contain their own method.

(3) Function icon

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>✍</td>
<td>Edit</td>
<td>Edit items</td>
</tr>
<tr>
<td>🔄</td>
<td>Move</td>
<td>Move items</td>
</tr>
<tr>
<td>🎨</td>
<td>Hide/Show</td>
<td>Hide item so that student can see it</td>
</tr>
<tr>
<td>🔒</td>
<td>Lock/Unlock</td>
<td>Can be modify</td>
</tr>
<tr>
<td>✗</td>
<td>Delete</td>
<td>Delete items</td>
</tr>
<tr>
<td>📋</td>
<td>Edit calculation</td>
<td>Edit calculate formula</td>
</tr>
</tbody>
</table>

Edit calculate formula:

Calculation formula:
A grade calculation is a formula used to determine grades. The formula should start with an equal (\(=\)) sign and may use common mathematical operators, such as max, min and sum. If desired, other grade items may be included in the calculation by typing the ID numbers in double square brackets.

For example,

\[
\text{average([[Quiz.1]], [[Quiz.4]], [[Assignment.1]])}
\]

\[
\text{average(max([[Quiz.1]], [[Quiz.4]], [[Assignment.1]]), min([[Quiz.1]], [[Quiz.4]], [[Assignment.1]]))}
\]

Please refer to moodle.org to get more calculations.

(4) Move selected items to
Select items which desire moved then select destination in drop-down menu.

(5) Add category and grade item
It can add category and grade item.

2. Full view
This page contains more setting than simple view.

(1) Aggregate only non-empty grades
This setting determines whether empty grades are not included in the aggregation or are counted as minimal grades.
(2) Aggregate including subcategories
This setting determines whether grades in subcategories are included in the aggregation.

(3) Drop the lowest
This setting enables a specified number of the lowest grades to be excluded from the aggregation.

(4) Keep the highest
If set, this option will only keep the X highest grades, X being the selected value for this option.

(5) Multiplicator
The multiplicator is the factor by which all grades for this grade item will be multiplied, with a maximum value of the maximum grade.

(6) Offset
The offset is a number that is added to every grade for this grade item, after the multiplicator is applied.

III. Application Example

1. Different weight for each assignment
   Q: There are three assignments in the course. However, the weight are 30%, 30%, 40%.
   How should I set the grade aggregation?
   A: Click “Categories and items” tag → Simple view. Select “Weighted mean of grades” and input the weight.
2. How to adjust all grades at once?

Q: How to plus 5 point for every student

A: Click “Categories and items” tag → Full view. Input the point you want to add in the offset field.
3. How to filter the grade item by score?

Q: There are three assignments but only the two highest grades will be calculate.

A: Click "Categories and items" tag → Full view. Input the number of highest grades you want in the "Keep the highest" field.
IV. Contact Us

If you have any questions and suggestions about the system, please contact Teaching & Learning Technology Division, Extension 61024, 61029.