

Gradebook Formulas

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The fact that WebCT records grades and has a way to download those grades in a format which can be imported into Excel is convenient. However, the gradebook can do so much more. By adding calculation columns, WebCT will calculate grade averages and remove the need to download to Excel all together.

Formula:

(	)	CE	C	Column:	Assgn Avg	▼	Insert		
7	8	9	/	Function:	maximum	▼	Start list	Next item	End list
4	5	6	*						
1	2	3	-						
0	.	+							

Update Cancel

The only similarity to Excel is the ability to insert a formula. The formula must be entered using the keypad appearing in the lower left of the window. You cannot edit the data in the formula directly. However, you can select the data and copy it to the clipboard for documentation. You cannot paste data into the formula area.

For a column to be included in a formula, it must already be a column and be numeric. It so, it will appear in the drop down list accessed by click the down arrow to the right of Column:

There are three functions: maximum, minimum, and sum. Formulas follow the standard order of precedence used in algebra and in Excel.

Averaging Grades

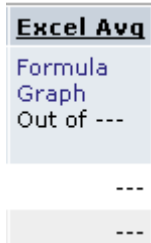
1. Add a new column to calculate an average. Give it a label and set it to calculated.

Add Column

Label:

Type: ▾

Click Add



2. In the added column, click **Formula**

Calculation Editor: Excel Avg

Formula:

(	)	CE	C	Column:	<input type="text" value="access"/> ▾	<input type="button" value="Insert"/>
7	8	9	/	Function:	<input type="text" value="maximum"/> ▾	<input type="button" value="Start list"/> <input type="button" value="Next item"/> <input type="button" value="End list"/>
4	5	6	*			
1	2	3	-			
0	.	+				

There are four Excel assignments (Excel 1, Excel 2, Excel 3, and Excel 4). There is no average function. Therefore, to average them, we will add the four assignments together and divide by 4. We can accomplish this using the sum function, or by adding them up.

$SUM\{[Excel\ 1],[Excel\ 2],[Excel\ 3],[Excel\ 4]}/4$

$([Excel\ 1]+[Excel\ 2]+[Excel\ 4])/4$

Either will work fine. Recall you have to use the keypad to enter all characters. If you use the addition method, remember the () or you will only be dividing the last entry by 4.

3. Pull down the Function arrow and select **sum**
4. Click **Start List**
5. Pull down the Column arrow and select Excel 1, and then click **Insert**
6. Click **Next item**, pull down the Column arrow and select Excel 2, and then click **Insert**
7. When you have entered all the assignments (quizzes, etc), click **End list**

Note how many entries you inserted (in this case it was four). On the keypad, click / followed by 4

8. Click **Update** and the results will display in the column for each student

Excel Avg
Formula Graph Out of 10.00
10.00
10.00
8.75
10.00

Dropping the lowest grade

The minimum function can be used to drop the lowest grade. Here is an example of dropping the lowest of the four Excel grades:

Calculation Editor: Excel Avg

Formula:

```
(SUM{[Excel 1],[Excel 2],[Excel 3],[Excel 4]}-MIN{[Excel 1],[Excel 2],[Excel 3],[Excel 4]})/3
```

(	)	CE	C
7	8	9	/
4	5	6	*
1	2	3	-
0	.	+	

Column:

Function:

This formula adds up the four grade, subtracts the lowest of the four grades, and then divides by the total number of grades less one. The parenthesis around the subtraction of the two functions is important, or the division would only be taking place on the minimum function.

Here are the results of dropping the lowest:

Excel Avg
Formula
Graph
Out of 10.00
10.00
10.00
10.00
10.00

Finding the Highest grade

The maximum function could be used to give the students multiple attempts and grade them on their best one.

Calculation Editor: **Excel Avg**

Formula:

```
MAX{[Excel 1],[Excel 2],[Excel 3],[Excel 4]}
```

(	)	CE	C
7	8	9	/
4	5	6	*
1	2	3	-
0	.	+	

Column:

Function:

Here are the results:

Excel Avg
Formula
Graph
Out of 10.00
10.00
10.00
10.00
10.00