

Microsoft Excel Manual

Purpose and Overview

The purpose of this manual is to provide an overview of Microsoft Excel tools and functions which are most useful to improve daily operational efficiency. Version 1

10/20/2015 Training, Evaluation & System Support www.umw.edu/tess

Companion Manuals: Commerce Manager Manual

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SECTION I: What is Excel?

Microsoft Excel is a spreadsheet application that is commonly used for a variety of uses. At its core, Excel is a table consisting of rows and columns. Excel is composed of rows and columns and uses a spreadsheet to display data. Features include: calculation, graphing tools, pivot tables, and a macro programming language called Visual Basic for Applications.

What can I do with this?

The data within a table can be sorted by any column, which means that the rows can be ordered by last name or first name alphabetically, by the ID number ascending or descending, by the amount paid ascending or descending, or by the date. You can also filter the data in the table to have only specific values show.

SECTION II: Cells, Rows, and Columns

What is a cell?

A cell, outlined in green below, is an individual block within a table in which you can enter values, such as words or numbers.

What are rows and columns?

Rows, outlined in red below, are a horizontal group of cells. Columns, outlined in blue below, are a vertical group of cells.

Last name	First name	Banner ID	Amount paid	Date paid		
Smith	John	745082	1,000	6/10/2014	←	This is a row
Doe	Jane	967034	5,000	6/5/2014		
Laman	Samantha	204573	3,000	5/31/2014		
Cather	Kyle	853725	7,000	6/3/2014		
Wilson	Owen	363084	2,500	6/8/2014		
Jones	Katherine	642986	6,500	6/2/2014		
Jackson	Michael	438715	3,250	5/27/2014		
O'neal	Samuea	543981	2,750	6/1/2014		
Eaton	Isabella	194382	1,525	6/7/2014		
Rent	Gabriel	793281	4,525	5/29/2014		
Tł	nis is a cell				This is	a column

Inserting rows and columns

To Add a Row:

1. Select the entire row below where you want to add the new row.

21							
22							
23	Last Name	First Name	Banner ID	Am	ount Paid	Date Paid	
24	Eaton	Isabella	194382	\$	1,525.50	6/7/2014	
25	O'Neal	Samuel	543981	ŝ	2,750.60	6/1/2014	
26	Jackson	Michael	438715	\$	3,250.25	5/27/2014	
27	Rent	Gabriel	793281	s	4,525.75	5/29/2014	
28	Cather	Kyle	853725	\$	7,000.30	6/3/2014	
29	Laman	Samantha	204573	\$	3,000.70	5/31/2014	
30	Jones	Katherine	642986	\$	6,500.35	6/2/2014	
31	Smith	John	745082	\$	1,000.95	6/10/2014	
32	Doe	Jane	967034	ŝ	5,000.45	6/5/2014	
33	Wilson	Owen	363084	Ś	2,500.65	6/8/2014	
34							
20							

2. Right click, select Insert.

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18	10	Paste Options:		
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20		Paste Special		
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24		clear coments	pella	
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27		Hide	riel	
28		Unhide		
29		Laman 5	amantha	
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31			1	

To Add a Column

1. Select the column to the right of where you want to add the new column

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1	A	8	С	D	E	F	G	н
22						l l		
23			Last Name	First Name	Banner ID	Amount Paid	Date Paid	
24			Eaton	Isabella	194382	\$ 1,525.50	6/7/201	4
25			O'Neal	Samuel	543981	\$ 2,750.60	6/1/201	4
26			Jackson	Michael	438715	\$ 3,250.25	5/27/2014	4
27			Rent	Gabriel	793281	\$ 4,525.75	5/29/201	4
28.			Cather	Kyle	853725	\$ 7,000.30	6/3/2014	4
29			Laman	Samantha	204573	\$ 3,000.70	5/31/201	1
30			Jones	Katherine	642986	\$ 6,500.35	6/2/2014	4
31			Smith	John	745082	\$ 1,000.95	6/10/2014	4
32			Doe	Jane	967034	\$ 5,000.45	6/5/201	1
33			Wilson	Owen	363084	\$ 2,500.65	6/8/2014	4
34								

2. Right click, select Insert.

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Section III: Navigation

Navigating through your spreadsheet doesn't have to be difficult. Using some very simple keystrokes, you can move from one end of your spreadsheet to the other faster than using the scroll bar.

Moving Between Cells

Use the arrow keys on your keyboard to move from one cell to another

Use the Tab key to move horizontally to the right. Hold the Shift key and press the Tab key to move horizontally to the left.

Use the Enter key to move vertically downward. Hold the Shift key and press the Enter key to move vertically upwards.

Selecting Multiple Cells

To select a range of data:

- 1. Select the first cell in the data range.
- 2. Hold the Shift key.
- 3. Select the last cell in the data range. OR

Select the beginning range of data, drag the cursor to select the range of data

Selecting Entire Rows and Columns

Excel organizes a data sheet by numbering the rows and lettering the columns.

To select an entire row:

Select the number of the row

To select an entire column:

Select the letter of the column.

Selecting Multiple Rows and Columns

To select multiple rows or columns

- 1. Select the entire first row
- 2. Hold the Shift Key
- 3. Select the entire last row of the range of data

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f. Inse Func	rt tion ΑutoSi	m Recently Used *	Financial L	ogical Text	Date & Loo Time * Refe	kup 8 rence	Math * & Trig * 1	More Functions *	Name Manager III De
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A	A	в	С	D	E		F	G	н
22									
23			ast Name	First Name	Banner ID	Amo	ount Paid	Date Paid	
24		E	Eaton	Isabella	194382	\$	1,525.50	6/7/2014	1
25		0	D'Neal	5amuel	543981	\$	2,750.60	6/1/201	1
26		1	lackson	Michael	438715	\$	3,250.25	5/27/2014	1
27		1	Rent	Gabriel	793281	\$	4,525.75	5/29/201	1
28		(Cather	Kyle	853725	S	7,000.30	6/3/201	1
29		1	aman	Samantha	204573	\$	3,000.70	5/31/2014	4
30		1	ones	Katherine	642985	\$	6,500.35	6/2/201	1
31			Smith	John	745082	\$	1,000.95	6/10/201	1
32			Doe	Jane	967034	\$	5,000.45	6/5/201	1
33			Wilson	Owen	363084	Ś	2,500.65	6/8/201	1
34									
35									

SECTION IV: Formatting

Formatting in Excel allows you to change the appearance of cells or the appearance of the spreadsheet as a whole.

Cells

Formatting cells allow you to change the appearance of the value within the cell without changing the value, such as converting number into a currency or percentage value.

To Format a Cell:

- 1. Select the cell or cells to format
- 2. Right click and select *Format Cells*.



The Format Cells dialogue box will appear



To convert a numeric value into an accounting value: Select Accounting from the list of Categories.

Number	Alignment
<u>C</u> ategory	:
General Number Currency	· · · · · ·
Percenta Fraction Scientific Text Special Custom	ige :

Click Ok.

Last Name First Name Banner ID Amount Paid Date Paid Eaton Isabella 194382 \$ 1,525.50 6/7/2014 O'Neal Samuel 543981 \$ 2,750.60 6/1/2014 Jackson Michael 438715 \$ 3,250.25 5/27/2014 Rent Gabriel 793281 \$ 4,525.75 5/29/2014 Cather Kyle 853725 \$ 7,000.30 6/3/2014 Jones Katherine 642986 \$ 3,000.70 5/31/2014 Jones Katherine 642986 \$ 1,000.95 6/2/2014 Mith John 745082 \$ 1,000.95 6/10/2014 Wilson Owen 363084 \$ 2,500.65 6/8/2014						
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O'Neal Samuel 543981 \$ 2,750.60 6/1/201 Jackson Michael 438715 \$ 3,250.25 5/27/201 Rent Gabriel 793281 \$ 4,525.75 5/29/201 Cather Kyle 853725 \$ 7,000.30 6/3/201 Laman Samantha 204573 \$ 3,000.70 5/31/201 Jones Katherine 642986 \$ 6,500.35 6/2/201 Smith John 745082 \$ 1,000.95 6/10/201 Doe Jane 967034 \$ 2,500.65 6/8/201 Wilson Owen 363084 \$ 2,500.65 6/8/201	Eaton	Isabella	194382	\$	1,525.50	6/7/2014
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CatherKyle853725\$7,000.306/3/2014LamanSamantha204573\$3,000.705/31/2014JonesKatherine642986\$6,500.356/2/2014SmithJohn745082\$1,000.956/10/2014DoeJane967034\$5,000.456/5/2014WilsonOwen363084\$2,500.656/8/2014	Rent	Gabriel	793281	\$	4,525.75	5/29/2014
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	Wilson	Owen	363084	\$	2,500.65	6/8/2014

Tables

A table is a way of formatting data so that data may be sorted. Tables also display rows in alternating colors to make the data easier to read.

Choosing a Table Style to Create a Table

To Choose a Table Style:

- 1. Select the range of cells to include in the table.
- 2. Choose *Table* located on the Insert tab.



The Create Table dialogue box will appear.



If you selected a range of data to include in the table, the table contents will already be populated in the *Where is the data for you table* field.

To include headers in the table, select the My Table has Headers checkbox.

To Create a Table from the Home Tab:

- 1. Select the range of cells to include in the table.
- 2. Select Format as Table.
- 3. Follow the steps listed above to create a table.



Adjust the Table Style

Select the table, and choose the Table Style located on the Design tab.

Design	
First Column	
Last Column	
Banded Columns	
le Options	Table Styles

Creating or Deleting a Custom Table Style

To Create a Custom Table:

- 1. Select your data
- 2. Choose Format as Table.



17

New PivotTable Style...

3. Select *New Table Style* at the bottom of the dropdown menu.

		· · · · · · · · · · · · · · · · · · ·
	Table Styles	
New Table Style		

The New Table Quick Style dialogue box will appear.

able Element:	Preview
uble Elements	The week
Whole Table	^
First Column Stripe	
First Dow Stripe	=
Second Row Stripe	
Last Column	2000 2000 2000 2000 2000 2
First Column	300 300 300 300 300 3
Header Row	
Total Row	*
Eormat Glear	

4. Select any of the table elements to format the table as desired.

The Preview box allows you to view the table before completing formatting changes. Select OK to apply the table to your data.

To Set this Table as a Default Table:

1. Select the Set as default table quick style for this document option

To Delete a Custom Style:

- 1. Select Format as Table.
- 2. Find the custom style located within the Custom section
- 3. Right click on the style, select *Delete*.

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(Custom						
	Light						
	<u>===</u> =			22222		22222	
	=====			=====			

Removing a Table Style

To Remove a Table Style from and Existing Table:

- 1. Select the contents of the table.
- 2. Choose the *More* button.



3. Choose Clear.

	New Table Style
疁	<u>C</u> lear

This will clear the table style but the data will still remain in a table format.

Converting a Table to a Range of Data

To Convert an Existing Table to a Range of Data:

- 1. Select the table.
- 2. Select Convert to Range.
- 3. Select Yes.



Formatting Table Elements

To Format the Elements of a Table Style:

- 1. Select the contents of the table.
- 2. Table Style Options contains various table formatting options.



3. Select the desired checkboxes to change the format of the table.

Header Row – Creates a row at the top of the table for headers.

Total Row – Creates a row at the bottom of the table populates a total sum for each column.

Banded Rows – Shades every other row in the table.

First Column – Shades the entire first column the same color as the header row.

Last Column – Shades the entire last column the same color as the header row.

Banded Columns - Shades every other column in the table.

Pivot Tables

A pivot table is a data summarization tool within Excel. A pivot table can sort, count, total and average the data within a table or spreadsheet.

To Insert a Pivot Table:

- 1. Select any cell in your data range.
- 2. Select Pivot Table located on the Insert tab.



The Create PivotTable dialogue box will appear.

Choose the data th	nat you want to analyze	
Select a table	e or range	(error
<u>T</u> able/Rar	nge: Tables!\$A\$1:\$D\$7	
🔘 Use an extern	nal data <mark>sourc</mark> e	
Choose	Connection	
Connectio	on name:	
Choose where you	want the PivotTable report to be	e placed
A New Worksho	et	
V IVEW WORKSHE		
Existing Work	sheet	
Existing Workshop Existing Work	sheet	

Excel will automatically select the data for the pivot table. Excel will also automatically select New Worksheet as the destination for the pivot table.

3. Click Ok.

A new worksheet will be added for the pivot table.

Initially, the spreadsheet will appear blank.

The PivotTable Field List is located to the right.



4. Choose the fields to see by selecting column headers within Choose Field to Add to Report.

You can also drag and drop a field into a Pivot table Area within the dialogue box.

Pivot Table Areas: *Report Filter* – Filters the entire pivot table based on fields in that area *Column Labels* – Adds columns to the table based on fields in that area; *Row Labels* – Adds rows to the table based on fields in that area; *Values* – Performs an Auto Sum action in the table based on the fields in that area.

In a pivot table, you can sort and filter like you can with any other data range.

To Change the Summary Calculation Value:

- 1. Click on any cell in the Grand Total row
- 2. Select Value Field Settings from the menu.

This will open the Value Field Settings dialogue box:

ource Name:	Amount	Paid		
ustom Name:	Sum of	Amount Paid		
Summarize Va	alues By	Show Values As		
<u>S</u> ummarize	value fi	ield by		
choose the ty data from the	ype of ca selected	lculation that you I field	want to use	to summarize

- 3. Choose the calculation you want to summarize.
- 4. Click Ok.

The Values field will change to the selected calculation.

Conditional Formatting

Conditional formatting allows you to change the appearance of a cell, based on criteria that you define, using predetermined rules in Excel.

Highlight Cells Rules

Using the highlight cells rules, you can highlight cells in your data that are greater or less than a value, between or equal to a value or contain a specified or duplicate value.

Greater Than

To highlight cells which contain data greater than a specific value:

- 1. Highlight the data range.
- 2. Select the Conditional Formatting tool



3. Hover over *Highlight Cells Rules* to reveal the menu of different rules.

Conditional Formatting v as Table v Styles v	Insert Delete Format
Highlight Cells Rules >	Greater Than
10 Top/Bottom Rules ►	Less Than
Data Bars 🕨	Between
Color Scales	Equal To
Icon Sets	<u>ab</u> <u>T</u> ext that Contains
Image: Mew Rule Image: Dear Rules	A Date Occurring
Manage <u>R</u> ules	Duplicate Values

4. Select *Greater Than* from the menu to open the Greater Than dialogue box:

Format cells that are GREATER THAN:		
	with Light Red Fill wi	Light Red Fill with Dark Red Text

- 5. Enter the value that you want to set as your lower limit for the Greater Than condition.
- 6. Select the type of formatting from the dropdown menu.
- 7. Select Ok.

The cells which contain a value greater than the value you specified will now appear with the cell formatting which you selected.

Less Than

To highlight cells that contain data less than a specific value:

- 1. Highlight the data range.
- 2. Select Conditional Formatting.



- 3. Hover over *Highlight Cell Rules*.
- 4. Select *Less Than* to open the Less Than dialogue box.

Less Than		8 ×
Format cells that are LESS THAN:		
1	with	Light Red Fill with Dark Red Text 💌
		OK Cancel

- 5. Enter the value that you want to set as your upper limit for the Less Than condition
- 6. Select *Ok*.

The cells which contain a value less than the value you specified will now appear with the cell formatting which you selected.

Between

To highlight cells between two specific values:

- 1. Highlight the data range.
- 2. Select Conditional Formatting.



- 3. Hover over *Highlight Cells Rules* to reveal the menu of different rules.
- 4. Select *Between* to open the Between dialogue box.

Format cells that are BETWEEN:				
and	💽 with	Light Red Fill with Dark	Red Text	-

- 5. Enter the lower limit in the first box and the upper limit in the second box.
- 6. Select the cell formatting.
- 7. Select Ok.

The cells which contain a value between the two specified values will now appear with the cell formatting which you selected.

Equal To

To highlight cells equal to a specific value:

- 1. Highlight the data range.
- 2. Select Conditional Formatting.



- 3. Hover over Highlight Cells Rules.
- 4. Select *Equal To* to open the Equal To dialogue box.

with Light Red Fill with Dark Red Text				rmat cells that are EQUAL TO:
	k Red Text	Light Red Fill with Da	with	

- 5. Enter the value that you're looking for.
- 6. Select the type of cell formatting you wish to use.
- 7. Select Ok.

The cells which contain the specified value will now appear with the cell formatting which you selected.

Text That Contains

To highlight cells that contain a certain character(s):

- 1. Highlight the data range.
- 2. Select Conditional Formatting.



- 3. Hover over the *Highlight Cells Rules*.
- 4. Select *Text That Contains* to open the Text That Contains dialogue box.

Fext That Contains	8 23
Format cells that contain the text:	
ight with Light	t Red Fill with Dark Red Text 💽

- 5. Enter the character(s) you're looking for.
- 6. Select the type of cell formatting you wish to use.
- 7. Select Ok.

The cells which contain the specified character(s) will now appear with the cell formatting which you selected.

A Date Occurring

To highlight cells that contain a certain date or date range:

- 1. Highlight the data range.
- 2. Select Conditional Formatting.



- 3. Hover over the *Highlight Cells Rules*.
- 4. Select *A Date Occurring* to open the Date Occurring dialogue box.

A Date Occurrin	ng	8 23
Format cells	that contain a	ı date occurring:
Yesterday	▼ with	Light Red Fill with Dark Red Text 💌
		OK Cancel

- 5. Select the date or date range that you're looking for.
- 6. Select the type of cell formatting.
- 7. Select Ok.

The cells which contain the specified date or date range will now appear with the cell formatting which you selected.

Duplicate Values

To highlight cells that contain either duplicate or unique values:

- 1. Highlight the data range.
- 2. Select Conditional Formatting.



- 3. Hover over Highlight Cells Rules.
- 4. Select *Duplicate Values* to open the Duplicate Values dialogue box.



- 5. Select either *Duplicate* or *Unique* from the drop down menu.
- 6. Select the type of cell formatting you wish to use.
- 7. Select Ok.

The cells which contain either duplicate or unique values will now appear with the cell formatting which you selected.

Top/Bottom Rules

Top and bottom rules can be used to highlight cells that are the top or bottom ten items or the top or bottom ten percent. They can also be used to identify items above or below the average.

Top 10 Items

To highlight cells that are the top 10 items in your data:

- 1. Highlight your entire data range.
- 2. Select Conditional Formatting.



- 3. Hover over Top/Bottom Rules.
- 4. Select *Top 10 Items* to open the Top 10 Items dialogue box.

Top 10 Items	8 22			
Format cells that rank in the TOP:				
10 🚔 with	Light Red Fill with Dark Red Text 💌			
	OK Cancel			

- 5. Enter the number of items to identify.
- 6. Select the type of cell formatting you wish to use.
- 7. Select Ok.

The cells which are in the top selected number will now appear with the cell formatting which you selected.

To identify the bottom 10 items select Bottom 10 Items instead of Top 10 Items.

Conditional Formatting variations as Table v Styles v	Insert Delete Format 2
Highlight Cells Rules	Cells
Top/Bottom Rules	<u>Top 10 Items</u>
Data Bars	Тор 10 %
Color Scales	Bottom 10 Items
Icon Sets	Bottom 10 %
Mew Rule Output Output	Above Average
Manage <u>R</u> ules	Below Average
STU OT>40 FQ45	More Rules

Top 10%

To highlight cells that are in the top percentage of items in your data:

- 1. Highlight the data range.
- 2. Select Conditional Formatting.



- 3. Hover over Top/Bottom Rules.
- 4. Select $Top \ 10\%$ to open the Top 10% dialogue box.



- 5. Enter the number of items to identify.
- 6. Select the type of cell formatting you wish to use.
- 7. Select Ok.

The cells which are in the top selected percentage will now appear with the cell formatting which you selected.

To identify the bottom 10 percent select *Bottom 10 Percent* instead of Top 10 Percent.

Conditional Formatting as Table + Styles +	Insert Delete Format
Highlight Cells Rules →	Cells
10 Top/Bottom Rules →	<u>T</u> op 10 Items
Data Bars 🔸	Top 10 %
Color Scales	Bottom 10 Items
Icon Sets	Bottom 10 %
Image: Mew Rule Image: Mew Rules Image: Mew Rules	Above Average
Manage <u>R</u> ules	Below Average
STU OT>40 FQ45	More Rules

Above Average

To highlight cells that are above the average value of your data:

- 1. Highlight the data range.
- 2. Select Conditional Formatting.



- 3. Hover over *Top/Bottom Rules*.
- 4. Select *Above Average* to open the Above Average dialogue box:

Above Average	8 23
Format cells that are AB	OVE AVERAGE:
for the selected range with	Light Red Fill with Dark Red Text 💌
	OK Cancel

Select the type of cell formatting you wish to use. Select *Ok*. The cells which are above the average value of your data will now appear with the cell formatting which you selected.

To identify items below the average value select *Below Average* instead of Above Average.

Conditional Formatting • Styles •	Insert Delete Format
Highlight Cells Rules	Cells
10 Top/Bottom Rules	<u>T</u> op 10 Items
Data Bars	Top 10 %
Color Scales	Bottom 10 Items
Icon Sets	Bottom 10 %
Image: Mew Rule Image:	<u>A</u> bove Average
Manage <u>R</u> ules	Below Average
STU OT>40 FQ45	More Rules
STU OT MO FOAS	Contraction of the second seco

Data Bars

Conditional formatting in Excel can be used to convert cells with numeric data into a bar graph. Two bar graph options are gradient and solid filled graphs.

To convert data into a bar graph:

- 1. Highlight your entire data range.
- 2. Select Conditional Formatting.



3. Hover over Data Bars.



4. Choose either Gradient or Solid and select a color for the bar graph.

The data cells will now be filled with a gradient color based on the value in the cell.



Color Scales

You can use the Color Scales rules to color the cells in your data based on their numerical value. Color Scales makes it easier to visualize the data.

To add a color scale to data:

- 1. Highlight the data range.
- 2. Select Conditional Formatting.



3. Hover over Color Scales.

Conditional Formatting v Tas Table v Styles v	Insert Delete Format
Highlight Cells Rules	Cells
Top/Bottom Rules ►	
<u>D</u> ata Bars →	
Color Scales	
Icon Sets	
New Rule Clear Rules Manage Rules	More Rules

4. Select a color scale.

The data cells will now be displayed as a color scale based on the value of the cell.

17
200
33
100
53
66
77
88

New Rule

If the rules outlined above do not cover what you need, you can create your own rule.

To create your own rule:

- 1. Highlight the cells in your data range.
- 2. Select the *Conditional Formatting* tool.



3. Select New Rule.



The New Rule dialogue box will open.

w Formattin	g Rule	8 23
elect a Rule T	/pe:	
Format all	ells based on their values	
Format onl	y cells that contain	
 Format online 	y top or bottom ranked values	
 Format online 	y values that are above or below aver	age
 Format online 	y unique or duplicate values	
Use a form	ula to determine which cells to format	
Format Style:	2-Color Scale 💌	
Minim	um	Maximum
Type: Lowe	est Value 👻	Highest Value 👻
Type: Lowe	est Value	Highest Value (Highest value)
Type: Low Value: (Low Color:	est value)	Highest Value (Highest value)
Type: Low Value: (Low Color: Preview:	est value)	Highest Value (Highest value)

4. Select the Rule Type.

Each rule type will change the appearance of the dialogue box, as it changes the rule description.

Clear Rules

Clear Rules clears any conditional formatting rules from the selected cells, the entire spreadsheet, the table, or the pivot table.

To clear conditional formatting:

8. Select Conditional Formatting.



- 1. Hover over Clear Rules.
- 2. Select the range for which to clear conditional formatting.



Manage Rules

Manage Rules allows you to view, edit, delete, and add rules.

To manage conditional formatting rules:

1. Select Conditional Formatting.



2. Select Manage Rules.



This will open the Conditional Formatting Rules Manager dialogue box:

how formatting rules for: Cu	rrent Selection 🖉			
Mew Rule	Rule X Delete Rul	e 🔺 💌		
Rule (applied in order shown)	Format	Applies to	Stop If True	1
Icon Set		=\$A\$1:\$A\$20		
Data Bar		=\$A\$1:\$A\$20		
Bottom 10%	AaBbCcYyZz	=\$A\$1:\$A\$20		
Cell Value > 25	AaBbCcYyZz	=\$A\$1:\$A\$20		
		OK Close	Apply	-

Select the formatting rules for dropdown to view rules for the current selection or any other worksheet or table within the workbook. You may add, edit or delete a rule from the Conditional Formatting Rules Manager.

SECTION V: Separating Text within a Cell

When data is combined within a cell, such as a first and last name, Excel is able to separate this data into two cells.

To separate data within a cell:

- 1. Insert a blank column to the right of the column containing the merged data.
- 2. Highlight the column of full names.
- 3. Select the *Data* tab.
- 4. Select Text to Columns.



The Convert Text to Columns Wizard dialogue box will.

5. Choose the appropriate data type.

To separate a column based on punctuation characters, select *Delimited*. To separate a column based on spaces between each field, select *Fixed Width*.

For this example we will select Delimited.



- 6. Select Next.
- 7. Choose your delimiters for the text separation.

For this example select Space.

Delimiters
Tab
Semicolon
Comma
Space
Other:

- 8. Select Next.
- 9. Select the data format for each column. For this example select *General*.

Column data format			
🖲 General 🗲			
) <u>T</u> ext			
Date:	MDY 💌		
🔘 Do not import column (skip)			

10. Select Finish.

Data will be displayed as separate columns.

Sallie Shaffer		Sallie	Shaffer
Joseph Garcia		Joseph	Garcia
Sallie Shaffer		Sallie	Shaffer
Surhid Gautam		Surhid	Gautam
Charles Dennis		Charles	Dennis
Yasmine Johnson		Yasmine	Johnson
Kathleen Chilton	\longrightarrow	Kathleen	Chilton
Kathleen Chilton		Kathleen	Chilton
Helen Martin		Helen	Martin
Helen Sue Martin		Helen	Martin
Joseph Garcia		Joseph	Garcia
Sallie Shaffer		Sallie	Shaffer
Mark Abraham		Mark	Abraham
Mark Abraham		Mark	Abraham
Surhid Gautam		Surhid	Gautam
Carmen Roberts		Carmen	Roberts

SECTION VI: Sorting

Sorting allows for alphabetic, numeric, color and even multi-level organization.

Alphabetical

To sort the data alphabetically:
 Select the column to sort.
 For this example we will sort by last name.

- 2. Highlight the column.
- 3. Select the *Data* tab.

Sorting options are located in the Sort & Filter section.

The Sort action, circled in blue below is used to alphabetically organize data.

The A-Z descending button is used to sort data from the lowest to highest values.

The Z-A descending button is used to sort data from the highest to lowest values.



4. Select the *A*-*Z* to alphabetize the data within the column.

A Sort Warning dialogue box will appear. This will ask if you want to expand the selection or continue with the current selection.

5. Select *Expand the Selection*. This will sort the entire data sheet based on the column instead of just sorting the column selected.

The data will be displayed alphabetically.

Last name	First name	Banner ID	Amount paid	Date paid
Cather	Kyle	853725	7,000	6/3/2014
Doe	Jane	967034	5,000	6/5/2014
Eaton	Isabella *	194382	1,525	6/7/2014
Jackson	Michael	438715	3,250	5/27/2014
Jones	Katherine	642986	6,500	6/2/2014
Laman	Samantha	204573	3,000	5/31/2014
O'neal	Samueal	543981	2,750	6/1/2014
Rent	Gabriel	793281	4,525	5/29/2014
Smith	John	745082	1,000	6/10/2014
Wilson	Owen	363084	2,500	6/8/2014

Numerically

To numerically sort data from lowest to highest values:

- 1. Select the column
- 2. Select the *A*-*Z* sort button to sort data from smallest to largest quantity.

Select the Z-A sort button to sort data from largest to smallest quantity.

Multi-level Sorting

A data table may also be sorted by using multiple criteria.

For this example we will sort by Semester and then by Last Name using the following table:

Last Name	First Name	Banner ID	Semester
Smith	John	745082	Fall
Doe	Jane	967034	Fall
Laman	Samantha	204573	Spring
Cather	Kyle	853725	Fall
Wilson	Owne	363084	Spring
Jones	Katherine	642986	Spring
Jackson	Michael	438715	Fall
O'neal	Samuel	543981	Spring
Eaton	Isabella	194382	Spring
Rent	Gabriel	793281	Fall

- 1. Select the first column to sort.
- 2. Select the *Sort* button, circled in red.



The Sort dialogue box will appear:

- 21 Add Level	V Delete revel	Sant On		Order	My uata has neade
Sort by		Values	•	A to Z	

- 3. Open the *Sort By* dropdown.
- 4. Select the appropriate name of the column to sort first. For this example we will use Semester.
- 5. The Sort On dropdown should remain as Values.
- 6. To alphabetically sort data, select A-Z.
- 7. Ensure the *My Data Has Headers* option is selected to differentiate between column headers and data.
- 8. Select *Add Level* to add additional criteria to sort by. The *Then By* criteria will appear.

Column		Sort On		Order	
Sortby	Semester	▼ Values	•	A to Z	
Then by		▼ Values		A to Z	

9. Select *Last Name* from the *Then By* dropdown box.

10. The Sort On dropdown should remain as Values.

11. The Order dropdown should be A-Z.

12. Click Ok.

The table will now be sorted alphabetically by semester and then by last name.

Last Name	First Name	Banner ID	Semester
Cather	Kyle	853725	Fall
Doe	Jane	967034	Fall
Jackson	Michael	438715	Fall
Rent	Gabriel	793281	Fall
Smith	John	745082	Fall
Eaton	Isabella	194382	Spring
Jones	Katherine	642986	Spring
Laman	Samantha	204573	Spring
O'neal	Samuel	543981	Spring
Wilson	Owne	363084	Spring

Sorting by Cell Color

To sort a color coded data table:

Last name	First name	Banner ID	Amount paid	Date paid
Cather	Kyle	853725	7,000	6/3/2014
Doe	Jane	967034	5,000	6/5/2014
Eaton	Isabella	194382	1,525	6/7/2014
Jackson	Michael	438715	3,250	5/27/2014
Jones	Katherine	642986	6,500	6/2/2014
Laman	Samantha	204573	3,000	5/31/2014
O'neal	Samueal	543981	2,750	6/1/2014
Rent	Gabriel	793281	4,525	5/29/2014
Smith	John	745082	1,000	6/10/2014
Wilson	Owen	363084	2,500	6/8/2014

For this example we will organize the table with green at the top, yellow in the middle, and red on the bottom.

- 1. Highlight the column of cells to sort.
- 2. Select Sort.



The Sort dialogue box will appear.

			Sc	ort			?	×
⇔ _{≩l} <u>A</u> dd	Level X Dele	ete Level	Copy Level			🖌 My da	ta has <u>h</u> e	ader
Column			Sort On		Order			
Sort by	Last name	~	Values	~	A to Z			~
								_
						OK	Cano	el

- 1. Open the *Sort By* dropdown.
- 2. Select the name of the column to sort.
- 3. Select *Cell Color* from the *Sort On* dropdown.
- 4. Select the color to be displayed at the top of the data sheet from the Order dropdown.
- 5. Ensure On Top is selected.
- 6. Select Add Level to add another sort criteria.
- 7. Select the same column from the *Then By* dropdown.
- 8. Select Cell Color from the Sort On dropdown
- 9. Select the color to be displayed at the bottom of the data sheet. For this example we will use the color red.

Your dialog box should now look like this:

		Sort		?	×
⊉ _≩ j <u>A</u> dd	Level X Delete Level	Copy Level 🔒 🗣	Options	✓ My data ha	s <u>h</u> eaders
Column		Sort On	Order		
Sort by	Last name 🗸 🗸	Cell Color	~	📕 👻 On Top	~
Then by	Last name 🗸 🗸	Cell Color	✓	🗕 👻 On Bot	tom 🗸
				ок с	ancel

10. Select Ok.

The data table will now be sorted by color.

Last name	First name	Banner ID	Amount paid	Date paid
Eaton	Isabella	194382	1,525	6/7/2014
O'neal	Samueal	543981	2,750	6/1/2014
Rent	Gabriel	793281	4,525	5/29/2014
Cather	Kyle	853725	7,000	6/3/2014
Jackson	Michael	438715	3,250	5/27/2014
Laman	Samantha	204573	3,000	5/31/2014
Smith	John	745082	1,000	6/10/2014
Doe	Jane	967034	5,000	6/5/2014
Jones	Katherine	642986	6,500	6/2/2014
Wilson	Owen	363084	2,500	6/8/2014

If there are more than three colors in the data sheet:

Follow the same process, but for each additional sort level added in the Sort dialogue box, select for each color to be displayed on top.

For example, data that contains five different colors would look like this:

		Sort		?	×
⊉ _{≜Į A} dd	Level X Delete Level	Copy Level	Diptions	✔ My data has <u>h</u>	eaders
Column		Sort On	Order		
Sort by	Last name 🗸 🗸	Cell Color	¥	🗧 👻 On Top	\checkmark
Then by	First name	Cell Color	¥	On Top	~
Then by	First name	Cell Color	v	👻 On Top	~
Then by	Banner ID	Cell Color		🔹 On Top	~
				OK Can	cel

Last name	First name	Banner ID	Amount paid	Date paid
Eaton	Isabella	194382	1,525	6/7/2014
O'neal	Samueal	543981	2,750	6/1/2014
Jackson	Michael	438715	3,250	5/27/2014
Rent	Gabriel	793281	4,525	5/29/2014
Cather	Kyle	853725	7,000	6/3/2014
Laman	Samantha	204573	3,000	5/31/2014
Jones	Katherine	642986	6,500	6/2/2014
Smith	John	745082	1,000	6/10/2014
Doe	Jane	967034	5,000	6/5/2014
Wilson	Owen	363084	2,500	6/8/2014

Once sorted, the data table will appear like this:

SECTION VII: Filters

Filters allow data to be limited to only display data which meets the criteria of the filter. Data which does not meet the criteria of the filter is hidden.

To apply a filter:

- 1. Select the range of data to filter
- 2. Highlight the headers of each column of data to filter. To highlight all header columns select the entire first row.
- 3. Select Filter.



A dropdown arrow will appear to the right of each column header.

Last name 💌 First name 💌 Banner ID 💌 Amount paid 💌 Date pai 💌

Filters may be applied to each column of data. To apply a filter, open the dropdown menu and select the criteria to display.

For example: to view all items that were paid in May:

- 1. Select the arrow to open the dropdown menu to filter.
- 2. Unselect the *Select All* checkbox.
- 3. Select the checkboxes you wish to display.

To filter further than the options that are made available:

- 1. Hover over the *Date Filters* option. (This may also be displayed as column, text or number filters, depending on the contents of the column).
- 4. Select the appropriate filter option to filter the data.



In this example, we will select *Before*.

A dialog box titled Custom AutoFilter will open.

e:			
	~		
l <mark>O</mark> r			
	× .		▼ 1
	d ⊖ <u>o</u> r	d O Or	d O Or

Enter the parameters for the filter in the Custom AutoFilter dialog box. Select 6/1/2014 from the calendar dropdown menu to the right of the *Is Before* dropdown. Click *Ok*.

The result will look like this:

Last name 💌	First name 💌	Banner ID 💌	Amount paid 💌	Date pai 🖓
Jackson	Michael	438715	3,250	5/27/2014
Rent	Gabriel	793281	4,525	5/29/2014
Laman	Samantha	204573	3,000	5/31/2014

This process may be used to filter any column.

*All sort and filter functions can also be found from the dropdown Sort & Filter menu in the Editing section



Section VIII: Functions and Formulas

Basic Functions/Formulas

Excel has many different functions and formulas which can be used to manipulate data in a variety of ways, such as sums, subtotals, averages, number counts, maximums, and minimums.

Sums

One of the most commonly used functions of Excel is summation. If you have a data table for a single student with amounts and dates of payment, to find the sum of all payments, you would use the summation function.

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Smith	John	745082	3,000	9/8/2013
			2,500	10/12/2013
			1,500	12/10/2013
			2,000	3/15/2014
			1,000	6/10/2014

To add numbers in a column:

- 1. Select the cell directly beneath the last entry.
- 2. Select Auto Sum located on the Formulas tab.



- 3. Select the AutoSum button
- 4. This will select all items within the column
- 5. Click the *Enter* key on your keyboard to calculate the sum of all fields.

Other functions are available by selecting the AutoSum dropdown



Other functions include: averaging the numbers in a column, counting the numbers in a column and finding the minimum and/or maximum numbers in the column.

Additionally, there is an AutoSum button and dropdown menu also located on the Home toolbar.



Subtotaling

The Subtotal tool is used sum data by group. Subtotaling data eliminates the need to manually insert a row and perform a summation.

Below is a sample data sheet for which we need to calculate the total amount paid for each semester.

Last Name	First Name	Banner ID	Amo	unt Paid	Semester
Smith	John	745082	\$	3,000.00	Fall
			\$	2,500.00	Fall
			\$	1,500.00	Fall
			\$	2,000.00	Spring
			\$	1,000.00	Spring

One Level Subtotals

To Subtotal a data sheet:

1. Select the *Subtotal* button located on the Data toolbar.



The Subtotal dialogue box will open

Subtotal	ୃ	23
At each change in:		
Semester		-
Use function:		
Sum		-
Add subtotal to:		
Last Name First Name Banner ID		*
Amount Paid		
Semester		-
Replace current subtotals		
Page break between groups		
Summary below data		
Remove All OK	Ca	ancel

To subtotal this data sheet by semester:

- 1. Choose Semester for the At Each Change In dropdown.
- 2. Select Sum for the Use Function dropdown.
- 3. Choose Amount Paid for the Add Subtotal To field.
- 4. Click Ok.

Subtotals will automatically be added to your data.

	12	3		Α	В	С	D	E	F
			1	Last Name	First Name	Banner ID	Amount Paid	Semester	
	ΓΓ	•	2	Smith	John	745082	\$ 3,000.00	Fall	
1		•	3				\$ 2,500.00	Fall	
		•	4				\$ 1,500.00	Fall	
	ÌÈ	•	5				\$ 7,000.00	Fall Total	
	ΙГ	•	6				\$ 2,000.00	Spring	
		•	7				\$ 1,000.00	Spring	
	ÌÈ	•	ß				\$ 3,000.00	Spring Tot	al
	—		9				\$ 10,000.00	Grand Tot	al

The subtotal hierarchy located to the left of the spreadsheet can be used to hide some of the data within the spreadsheet.

To view only the grand total, select column 1

To view the total for each subsection, select column 2

To view all data, select column 3.

Nested Level Subtotals

Nested Level Subtotals are used to subtotal more than one level of data. For this example our list of data contains individual payers and semesters

Semester	Last Name	First Name	Banner ID	Amount Paid
Fall 2013	Smith	John	745082	\$ 3,000.00
Fall 2013	Smith	John	745082	\$ 2,500.00
Fall 2013	Smith	John	745082	\$ 1,500.00
Fall 2013	Jones	Katherine	642986	\$ 1,500.00
Fall 2013	Jones	Katherine	642986	\$ 2,000.00
Fall 2013	Jones	Katherine	642986	\$ 3,250.00
Spring 2014	Smith	John	745082	\$ 2,000.00
Spring 2014	Smith	John	745082	\$ 1,000.00
Spring 2014	Jones	Katherine	642986	\$ 3,000.00
Spring 2014	Jones	Katherine	642986	\$ 2,750.00
Fall 2014	Smith	John	745082	\$ 2,750.00
Fall 2014	Smith	John	745082	\$ 3,250.00
Fall 2014	Jones	Katherine	642986	\$ 1,750.00
Fall 2014	Jones	Katherine	642986	\$ 2,000.00
Spring 2015	Smith	John	745082	\$ 1,750.00
Spring 2015	Smith	John	745082	\$ 2,250.00
Spring 2015	Smith	John	745082	\$ 2,000.00
Spring 2015	Jones	Katherine	642986	\$ 2,250.00
Spring 2015	Jones	Katherine	642986	\$ 2,500.00
Spring 2015	Jones	Katherine	642986	\$ 3,000.00

- 1. Select any cell within your range of data
- 2. Select *Subtotal* on the Data tab.



The Subtotal dialogue box will open.

- 3. For the At Each Change in dropdown menu, select Semester.
- 4. Choose to Use Function, Sum.
- 5. Choose to Add Subtotal To, Amount Paid.

Subtotal	? X
<u>At each change in:</u>	
Semester	
Use function:	
Sum	
Add subtotal to:	
Semester Last Name First Name Banner ID	*
Amount Paid	+
Replace <u>current</u> subtotals Page break between group Summary below data Remove All OK	os Cancel

6. Click Ok.

The first level of subtotal will be added to the data.

1	2 3		А	В	С	D	E
		1	Semester	Last Name	First Name	Banner ID	Amount Paid
Γ	Γ·Ι	2	Fall 2013	Smith	John	745082	\$ 3,000.00
	•	3	Fall 2013	Smith	John	745082	\$ 2,500.00
	·	4	Fall 2013	Smith	John	745082	\$ 1,500.00
	·	5	Fall 2013	Jones	Katherine	642986	\$ 1,500.00
	·	6	Fall 2013	Jones	Katherine	642986	\$ 2,000.00
	•	7	Fall 2013	Jones	Katherine	642986	\$ 3,250.00
	-	8	Fall 2013 Tota	al			\$ 13,750.00
	Γ·۱	9	Spring 2014	Smith	John	745082	\$ 2,000.00
	·	10	Spring 2014	Smith	John	745082	\$ 1,000.00
	·	11	Spring 2014	Jones	Katherine	642986	\$ 3,000.00
	·	12	Spring 2014	Jones	Katherine	642986	\$ 2,750.00
[-	13	Spring 2014 T	otal			\$ 8,750.00
	Γ·	14	Fall 2014	Smith	John	745082	\$ 2,750.00
	·	15	Fall 2014	Smith	John	745082	\$ 3,250.00
	·	16	Fall 2014	Jones	Katherine	642986	\$ 1,750.00
	·	17	Fall 2014	Jones	Katherine	642986	\$ 2,000.00
	-	18	Fall 2014 Tota	al			\$ 9,750.00
	Γ·	19	Spring 2015	Smith	John	745082	\$ 1,750.00
	·	20	Spring 2015	Smith	John	745082	\$ 2,250.00
	·	21	Spring 2015	Smith	John	745082	\$ 2,000.00
	•	22	Spring 2015	Jones	Katherine	642986	\$ 2,250.00
	•	23	Spring 2015	Jones	Katherine	642986	\$ 2,500.00
	•	24	Spring 2015	Jones	Katherine	642986	\$ 3,000.00
	-	25	Spring 2015 T	otal			\$ 13,750.00
		26	Grand Total				\$ 46,000.00

To add an additional level of subtotals:

- 1. Select Subtotal
- 2. For the At Each Change in dropdown menu, select Last Name.
- 3. Choose to Use Function, Sum.
- 4. Choose to Add Subtotal To, Amount Paid.

5. Ensure the checkbox *Replace Current Subtotals* is unchecked.



6. Click Ok.

The second level of subtotals will be added to the data range:

	1	\mathbf{r}							
1	2	31		A	В	С	D		E
			1	Semester	Last Name	First Name	Banner	A	mount Paie
1	Г	Γ·	2	Fall 2013	Smith	John	745082	\$	3,000.00
I	Т		3	Fall 2013	Smith	John	745082	\$	2,500.00
I	Т	·	4	Fall 2013	Smith	John	745082	\$	1,500.00
	Т	Ė.	5		Smith Total			\$	7,000.00
	Т	Г٠	6	Fall 2013	Jones	Katherine	642986	\$	1,500.00
	Т	·	7	Fall 2013	Jones	Katherine	642986	\$	2,000.00
	Т	1 ·	8	Fall 2013	Jones	Katherine	642986	\$	3,250.00
I	Т		9		Jones Total			\$	6,750.00
I	Ē		10	Fall 2013 1	fotal			\$	13,750.00
I	Г	Г٠	11	Spring 2014	Smith	John	745082	\$	2,000.00
I	Т	1 ·	12	Spring 2014	Smith	John	745082	\$	1,000.00
I	Т		13		Smith Total			\$	3,000.00
I	Т	Г٠	14	Spring 2014	Jones	Katherine	642986	\$	3,000.00
I	Т	1 ·	15	Spring 2014	Jones	Katherine	642986	\$	2,750.00
I	Т		16		Jones Total			\$	5,750.00
I	-	,	17	Spring 201	4 Total			\$	8,750.00
I	Г	Г٠	18	Fall 2014	Smith	John	745082	\$	2,750.00
I	Т	1 ·	19	Fall 2014	Smith	John	745082	\$	3,250.00
I	Т	-	20		Smith Total			\$	6,000.00
I	Т	Г٠	21	Fall 2014	Jones	Katherine	642986	\$	1,750.00
I	Т	1 ·	22	Fall 2014	Jones	Katherine	642986	\$	2,000.00
I	Т	-	23		Jones Total			\$	3,750.00
I	-	,	24	Fall 2014 1	otal			\$	9,750.00
I	Г	Γ·	25	Spring 2015	Smith	John	745082	\$	1,750.00
	Т	1 ·	26	Spring 2015	Smith	John	745082	\$	2,250.00
	Т	·	27	Spring 2015	Smith	John	745082	\$	2,000.00
I	Т	_	28		Smith Total			\$	6,000.00
I	Т	Г·	29	Spring 2015	Jones	Katherine	642986	\$	2,250.00
		·	30	Spring 2015	Jones	Katherine	642986	\$	2,500.00
		Ŀ	31	Spring 2015	Jones	Katherine	642986	\$	3,000.00
			32		Jones Total			\$	7,750.00
ľ	-		33	Spring 201	15 Total			\$	13,750.00
	1		34	Grand Tot	al			\$	46,000.00
				-					

Removing Subtotals

To remove subtotals from a data sheet:

1. Select the *Subtotal t*ool

The Subtotal Dialogue box will appear.

2. Select *Remove All* to remove all subtotals.



Average

To find the average of a select range of data:

1. Select the cell directly beneath the range of data

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Smith	John	745082	3000	9/8/2013
			2500	10/12/2013
			1500	12/10/2013
			2000	3/15/2015
			1000	6/10/2015

2. Select the Auto Sum dropdown on the Formulas tab.



3. Choose Average from the Auto Sum dropdown

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- 4. Select the range of cells to calculate
- 5. Click *Enter* on your keyboard

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Smith	John	745082	\$3,000	9/8/2013
			\$2,500	10/12/2013
			\$1,500	12/10/2013
			\$2,000	3/15/2015
			\$1,000	6/10/2015
			\$2,000	$\mathbf{>}$

Count Numbers

To count the number of items in a range of data:

1. Select the cell directly beneath the range of data.

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Smith	John	745082	3000	9/8/2013
			2500	10/12/2013
			1500	12/10/2013
			2000	3/15/2015
			1000	6/10/2015

- 2. Select the Auto Sum dropdown.
- 3. Select Count Numbers.



- 4. Select the range of cells to calculate.
- 5. Click *Enter* on your keyboard.

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Smith	John	745082	3000	9/8/2013
			2500	10/12/2013
			1500	12/10/2013
			2000	3/15/2015
			1000	6/10/2015
			5	

Maximum and Minimum

To calculate the Maximum or Minimum for a range of data: 1. Select the cell directly beneath the range of data.

Last Name	First Name	Banner ID	Amount Paid	Date Paid
Smith	John	745082	3000	9/8/2013
			2500	10/12/2013
			1500	12/10/2013
			2000	3/15/2015
			1000	6/10/2015

- 2. Select the Auto Sum dropdown.
- 3. Select Max or Min to calculate the maximum or minimum values



- 6. Select the range of cells to calculate.
- 7. Click *Enter* on your keyboard to calculate the value.