UNIVERSITY of FLORIDA
MAINSPRING
INSPIRATION · INTEGRATION · INNOVATION

Workshop

Welcome

MS Excel

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Tips, Tricks, and Basic Functions

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Workshop Agenda

I. Learning tools
II. Navigation and Efficiency Tips
III. Table Formatting
IV. Formulas
V. More Fun with Formulas
VI. Prep for Print

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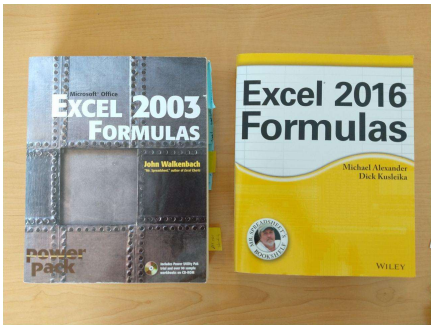
Learning Tools

- *Don't be afraid of the "HELP" function (just hit F1)*
- *Don't hesitate to ask Google!*
- *LinkedIn Learning (free with your UF credentials)*
- *StackExchange.com*
- *READ??!!??!!*



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Navigation & Efficiency Tips

222 Excel shortcuts for Windows and Mac

https://exceljet.net/keyboard-shortcuts

General Program Shortcuts

Create new workbook	Ctrl N	⌘ N
Open workbook	Ctrl O	⌘ O
Save workbook	Ctrl S	⌘ S
Save as	F12	⌘ ⇧ S
Print file	Ctrl P	⌘ P
Open print preview window	Ctrl F2	
Close current workbook	Ctrl F4	⌘ W
Close Excel	Alt F4	⌘ Q

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General Commands

Open help	F1	⌘ /
Undo last action	Ctrl Z	⌘ Z
Redo last action	Ctrl Y	⌘ Y
Copy selected cells	Ctrl C	⌘ C
Repeat last action	F4	⌘ Y
Cut selected cells	Ctrl X	⌘ X
Paste content from clipboard	Ctrl V	⌘ V

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Navigation

Move one screen right	Alt PgDn	Fn ⌥ ↓
Move one screen left	Alt PgUp	Fn ⌥ ↑
Move one screen up	PgUp	Fn ↑
Move one screen down	PgDn	Fn ↓
Move to right edge of data region	Ctrl →	^ →
Move to left edge of data region	Ctrl ←	^ ←
Move to top edge of data region	Ctrl ↑	^ ↑
Move to bottom edge of data region	Ctrl ↓	^ ↓
Move to beginning of row	Home	Fn ←
Move to last cell in worksheet	Ctrl End	Fn ^ →
Move to first cell in worksheet	Ctrl Home	Fn ^ ←

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Selection

Select entire row	Shift Space	⇧ Space
Select entire column	Ctrl Space	^ Space
Select entire worksheet	Ctrl A	⌘ A
Add adjacent cells to selection	Shift Click	⇧ Click
Add non-adjacent cells to selection	Ctrl Click	⌘ Click

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Extending a Selection

Extend selection by one cell right	Shift →	⇧ →
Extend selection by one cell left	Shift ←	⇧ ←
Extend selection by one cell up	Shift ↑	⇧ ↑
Extend selection by one cell down	Shift ↓	⇧ ↓
Extend the selection to the last cell right	Ctrl Shift →	^ ⇧ →
Extend the selection to the last cell left	Ctrl Shift ←	^ ⇧ ←
Extend the selection to the last cell up	Ctrl Shift ↑	^ ⇧ ↑
Extend the selection to the last cell down	Ctrl Shift ↓	^ ⇧ ↓
Extend selection up one screen	Shift PgUp	Fn ⇧ ↑
Extend selection down one screen	Shift PgDn	Fn ⇧ ↓
Extend selection right one screen	Alt Shift PgDn	Fn ⇧ ⌥ ↓
Extend selection left one screen	Alt Shift PgUp	Fn ⇧ ⌥ ↑
Extend selection to start of row	Shift Home	Fn ⇧ ←
Extend selection to first cell in worksheet	Ctrl Shift Home	Fn ^ ⇧ ←
Extend selection to last cell in worksheet	Ctrl Shift End	Fn ^ ⇧ →

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Navigation & Efficiency Tips

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Formatting

Apply general format	Ctrl Shift ~	^ ⇧ ~
Apply currency format	Ctrl Shift $	^ ⇧ $
Apply percentage format	Ctrl Shift %	^ ⇧ %
Apply scientific format	Ctrl Shift ^	^ ⇧ ^
Apply date format	Ctrl Shift #	^ ⇧ #
Apply time format	Ctrl Shift @	^ ⇧ @
Apply number format	Ctrl Shift !	^ ⇧ !

Number Formatting

Format (almost) anything	Ctrl 1	⌘ 1
Display Format Cells with Font tab selected	Ctrl Shift F	^ ⇧ F
Apply or remove bold formatting	Ctrl B	⌘ B
Apply or remove italic formatting	Ctrl I	⌘ I
Apply or remove underscoring	Ctrl U	⌘ U
Apply or remove strikethrough formatting	Ctrl 5	⌘ ⇧ X

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Using the Cursor Wisely

https://www.dickinson.edu/download/downloads/id/2558/excel

	Used for selecting cells
	The I-beam which indicates the cursor position when editing a cell entry.
	The fill handle. Used for copying formula or extending a data series.
	To select cells on the worksheet. Selects whole row/column when positioned on the number/letter heading label.
	At borders of column headings. Drag to widen a column.
	At borders of row letters. Drag to increase height of row.

Shape	Used to:
	The **Select Cursor.** Select a cell or range. This is always used to select data before applying formatting commands.
	The **Fill Handle.** Use this to copy formulas or values. The fill handle only appears when you are in the lower right corner of the current selection.
	The **White Arrow with a smaller 4-headed black arrow.** Use this to drag and drop the selected cell or range. The white arrow only appears when you are at the edge of the current selection.
	The **I-Beam.** Use this to enter or edit data. The cursor (vertical line inside the cell) blinks.
A	The **2-headed arrow (horizontal).** Resize column width
5 6	The **2-headed arrow (vertical).** Resize row height
Format Painter	The **Format Painter.** Use this to copy cell formats. Click on the text that is already formatted the way you want it. Then click on the Format Painter button (on the **Home** tab, in the **Clipboard** group). Click on one cell or drag the cursor over the cells that you want to format. They will be formatted exactly the same as the cell that you were in when you clicked on the Format Painter

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Patterned Data

Monday		January		1	
Tuesday		February		2	
Wednesday		March		3	
Thursday		April		4	
Friday		May		5	
Saturday		June		6	
Sunday		July		7	
		August		8	
		September		9	
		October			
		November			
		December			

Quick ways to enter and setup spreadsheets:

- Days of the week
- Months of the year
- Numerical strings
- Custom patterns

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Now let's TRY A FEW!

Please open:

MSExcel_BasicTips_Exercise1.xlsx

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Working with a Data Table

So now we know a BUNCH of shortcut keys! What next?

- Prep a data table downloaded from the UF General Ledger
- **PRO TIPS**
  - Remove blank rows/columns, they blow up your sorts and filters!! (HIDE/SHOW or DELETE)
  - Freeze the top row for "floating" column headers when the page scrolls, easier for readers to follow
- **Sort Function** allows you to sort and arrange data according to you own requirements or preferences
- **Filter Function** allows you to "filter" desired or undesired values found in the cells within your columns
- **Grouping Function** allows you to sort and then collapse or expand levels of details within your worksheet
- **Subtotal Function** allows you to count, average, or sum the values in a list, based on the previous grouping function

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Working with a Data Table

SORTING Function

- Consider your data
- What's the table telling us?
  - myUFL General Ledger query
- Is this expense data for a project? Would it make sense to sort by date? GL account code? dollar value?

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Working with a Data Table

FILTER Function

- Consider your data
- What's the table telling us?
  - myUFL General Ledger query
- Are you reconciling by chance? Looking for one of those pesky travel expenses?
- Filter Out (or essentially hide/eliminate) the data values that are not relevant to your reconciling search!
  - For this upcoming exercise, salary and fringe or lab supplies won't get you to the bottom of the mystery!

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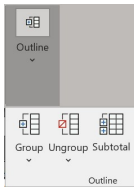
Working with a Data Table

GROUP Function



- Consider your data
- What's the table telling us?
  - You are managing an AWARD with 8 subprojects
  - You need to reconcile expenses by PI, within subproject across the entire award
    - **PRO TIP** – run an AWARD Expense Transaction Report and not 8 individual Project Reports, now its all in one worksheet!!
- GROUP by PI NAME

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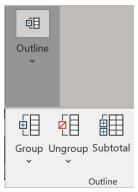
Working with a Data Table

SUBTOTAL Function



- Consider your data
- What's the table telling us?
  - You are managing an AWARD with 8 subprojects
  - You need to reconcile expenses by PI, within subproject
    - **PRO TIP** – run an AWARD Expense Transaction Report and not 8 individual Project Reports, now its all in one worksheet!!
- SUBTOTAL by the same categories

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Now let's TRY A FEW!

Please open:

MSExcel_BasicTips_Exercise2.xlsx

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Formulas

Excel's not-so-secret "superpower"

- No we aren't trying to take you back to high school algebra, but Excel allows you to form your own mathematical expressions by calculating the value of the cells.
- There are many, many, many predefined Excel formulas, too many to list!!
- Formulas can be used to sum values, average data, merge text fields, and perform what-if analysis
  - Adding columns/rows
  - Averaging data in columns
  - Summing conditional data
  - Using ABSOLUTE or RELATIVE cell references in formulas
  - Text formulas

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Formulas

AutoSum

- Highlight the cells in a column or in a row that you want to add together.

- Or you can type the formula in the cell yourself
  - =sum(A1:A27) – this would include the values in A1 all the way through A27, and add them all together
- Or since we are learning those shortcut keys, hit ALT and the = sign in the cell you want the total be added into, then highlight the range you want to be added together

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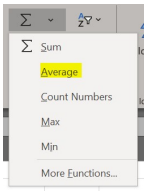
Formulas

Measures of Central Tendency

- It's a fancy way to say "tell me the average" value
  - This also describes MEDIAN, MODE, MIN, and MAX



- Like how we accessed the autosum function, you can select the Average function as well.
  - Or you can type the formula in yourself
  - =average(a1:a12) and this would return the average of all the non-blank values in cells 1 to 12 in column A
  - Try MIN and MAX too!

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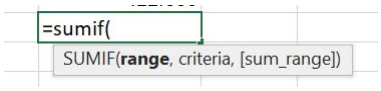
Formulas

Conditional Data (=SumIF)

- It's as simple as adding cells, but only if they contain a certain value or "criteria" or condition
- You have to define the "criteria", the range of cells the "criteria" is populated in, and the "sum range" of cells you want to add if that criteria exists!
- We will look at a GL query output and specify that we want to sum only the FACULTY-EARNINGS expenses on the ledger, and we can do this by simply saying the GL account value must be "611110"



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Formulas

Absolute vs. Relative Cell References

- Its not as complex as it sounds.
- Excel uses cell "addresses" to reference which cells should be included in a formula or calculation.
- By default, Excel will associate a formula to a relative location. Relative referencing means that the cell address changes as you copy or move it; i.e. the cell reference is relative to its location. (hint – by default Excel uses Relative cell references)
- Absolute means just that, you are telling Excel not to use a relative location, but a specifically assigned cell address for the purposes of a calculation. (hint – use the $ in the formula)

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Formulas

Text Formulas

- Why would I need to add or subtract words?
- Sometimes data is output in more columns than you find useful, or maybe not enough detail.
- Spreadsheets with LastName, FirstName ?!#$*
  - Why can't they be in one column? (=CONCATENATE)
- Did you ever notice the first 2-digits of a DEPTID are actually the college code?
  - So can I extract the college code from the DEPTID and sort data by college? (=LEFT)
- We will practice inserting and moving columns to add these new cells values too!

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Now let's TRY A FEW!

Please open:

MSExcel_BasicTips_Exercise3.xlsx

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Unpacking Formulas

Unpacking Formulas from your PI or other collaborators

- What's the most common Excel or spreadsheet file that we share back and forth in Research Administration?
  - That's right – the BUDGET
- We will look at a sample internal budget and begin to investigate what formulas are on the sheet
- We will also earn how to validate those formulas, and not just TRUST them!!

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Unpacking Formulas

Unpacking Formulas from your PI or other collaborators

- Other things to consider:
  - Conditional Formatting (not a topic for today) but a demo
  - Absolute vs Relative cell references in the formulas
  - IF - THEN conditions
  - Sensitivity Analysis

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Now let's TRY A FEW!

Please open:

MSExcel_BasicTips_Exercise4.xlsx

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Prep for Print

Printing???!!!???

- Yes people still hit print, even when its attached in UFIRST or it was sent NSF or NIH!
- Break the habit now – don't send an Excel file to someone without ensuring it is prepped for printing!
- **PRO TIP** – the recipient wants to hit print and it work, not end up on 14 pages when it should have printed on 2!

- **Print Preview Functions**
  - **Portrait or Landscape?**
  - **Margins**
- **Rows to Repeat at Top**
- **Print to PDF**

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Prep for Print

Print Preview Functions

- Select PRINT (File → Print) or use the PRINT PREVIEW Quick Access Bar ICON
- Notice it is going to print on 4 pages? Why?
- Look at ORIENTATION
- Look at Page Size and Margins

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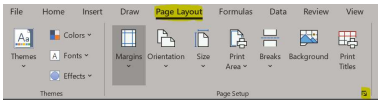
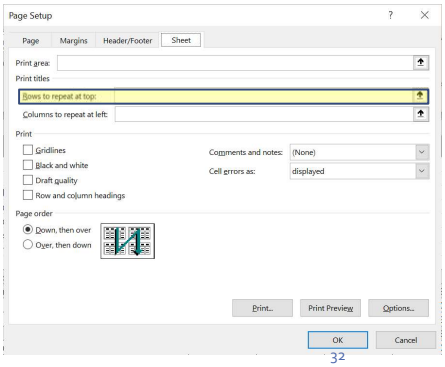
Prep for Print

Rows to Repeat at Top



- **Think about the desired output to paper (or even PDF)**
- **Does your table have headers that maybe need to be on the top of each page, so as the data paginates the subsequent pages have the header rows too?**



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Prep for Print

Print to PDF

- PDF = Portable Document Format (Adobe originally, now others)
  - It became an ISO in 2008!
- Essentially, it's a print ready document, already formatted exactly how you the sender wants the recipient to view it
  - Saves a tree
  - Pre and post pandemic, virtual work is a reality, you can't hand the paper to someone in the next office
  - The federal government supports it as a standard for proposals and reporting

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Now let's TRY A FEW!

Please open:

MSExcel_BasicTips_Exercise5.xlsx

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Thank You

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