

EXCEL 10

A basic overview of Microsoft
Excel

What is Excel?

- Excel is a spreadsheet program.
- A spreadsheet is a grid-based document that allows you to analyze, summarize and display data.
- Each file is called a workbook.
- Each workbook is comprised of worksheets.
- Individual worksheets can be accessed using tabs.
- Each Worksheet is comprised of cells. There are 16,777,216 cells in each worksheet.
- Each cell has a reference, A6 for example, that refers to its unique row and column intersection.

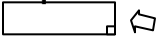
Entering Data

- Data is entered into cells.
- The active cell is the cell into which you are entering data.
- As data is being entered, it can be seen both in the active cell and in the formula bar.
- When finished entering data in a cell, move out of the cell to lock the data in the cell.
- If you hit enter, the active cell will become the cell directly below, e.g. A1 will move to A2.
- Cells can be navigated using arrow keys, mouse, tab key or your enter key. Using any of these will lock data in the active cell.
- After data is locked in a cell, the result will be in the cell and the underlying calculation will be in the formula bar.
- If you begin to type in a cell that already contains data, or a formula, it will be completely replaced by what you enter.
- To edit the data in a cell, hit the F2 key to make the cell active.
- To delete data in a cell, move to the cell and, before you hit any other key, hit the delete key.

Types of Data

- When you enter a number only, the default is numerical.
 - 2004 becomes 2,004
- If you enter any non-numerical characters, the data type changes to text.
 - 2+1 becomes 2+1
- To enter a calculated value, start your entry with the equal sign.
 - =2+1 becomes 3
- To enter a formula, start with the equal signs, then move around to the appropriate cells (more on this later).
 - =A1+A2 becomes the sum of the values in those two cells.
- To have a number display as text, start your entry with the apostrophe.
 - '2004 becomes 2004

Text

- Text is typically used for column or row headings.
- When entering a number, such as the year, remember to precede it with an apostrophe.
- Auto Fill will fill in a common series such as numbers, months or days for you.
 - Enter the first heading: January
 - Grab the dark square in the bottom right corner with your mouse 
 - Drag the highlighter over the range of cells
 - Let go of the mouse button
- To auto fill a pattern, enter the pattern, highlight all the cells in the pattern, then drag the square.

Numerical Data

- **Numbers - enter the number as you would in a calculator.**
 - Whole numbers enter just the number: 3256
 - Numbers with a decimal enter: 3256.1
 - Negative numbers enter: -3256.11
 - Calculated numbers enter the equals sign then the calculation:
=3+6-4 or =(3+6)*8
- **Dates – Excel will convert to a number for future calculation**
 - 1/1/04 becomes 37,987
- **Percentages – really a matter of formatting**
 - enter either the percentage or the calculation: .25 or =1/4

Inserting

- **Cells**
 - Go to the cell that you want to end up below or to the left of the new cell
 - Mouse to the menu bar at the top and click Insert, Cells then choose what you want to happen to all the other data (shift cells right or down) – or -
 - Hit Alt, i (for Insert) e (for Cells) then do as above
- **Columns**
 - Go to the column that you want to end up to the right of the new column
 - Mouse to the menu bar at the top and click Insert, Columns – or -
 - Hit Alt, i (for insert), c (for column)
- **Rows**
 - Go to the row that you want to end up below the new row
 - Mouse to the menu bar at the top and click Insert, Rows – or -
 - Hit Alt, i (for insert), r (for row)

Deleting

- Cells
 - Go to the cell that you want to delete (not erase the contents, delete the whole cell)
 - Mouse to the menu bar at the top and click Edit, Delete, then choose what you want to happen to all the other data (move it left or up)
 - Hit Alt, i (for Insert) e (for Cells) then do as above
- Columns
 - Click on the colored column reference cell
 - Mouse or Alt Edit, Delete
- Rows
 - Click on the colored row reference cell
 - Mouse or Alt Edit, Delete
- Tip – When you delete something, you may inadvertently create problems with a formula that referenced it. Your result will change to #REF!. An easy way to deal with this is to mouse or Alt Edit, Undo.

Formulas – The Best Part

- Anything you can do on a scientific calculator, you can do with an Excel formula
- For the best success, enter your data in cells and reference the cells in your formulas
 - `=A1*A2` is preferable to `=A1*3`
- To reference cells, use mouse or arrow key
- Every time you enter an operator (+ * - /) the program will return to the active cell, from which you can navigate to the next cell.
- Remember your algebra
 - Use parentheses to group data properly
 - `=(A6+B9)/A8`
 - `=((A6+B9)*(A8-C10))/A1`
- Operators
 - To add, use +
 - To subtract, use -
 - To multiply, use *
 - To divide, use /

References

Relative or Absolute

- When you reference cells in a formula, the cells can be relative or absolute.
- Relative references are not locked. If you have the formula $=A1+A2$ and you copy it from column A to column B, the formula in column B will read $=B1+B2$.
- Absolute references are locked to a particular cell. If you copy the formula, the part of the formula with the absolute reference will not change.
- You set an absolute reference using your F4 key. After clicking on the cell while creating a formula, hit the F4 key to lock it. The cell reference will change from $=A1$ to $=$A1 .

Summing it all Up (your numbers, not the class)

- There is a handy button called the auto sum button.
- Click on it and it will automatically select the range of cells above it, if there are any, or to the left of it, if there are not.
- If there is an empty row (going up) or column (going left), it will stop there.
- You can continue the range by grabbing the little box in the corner of the direction you want to go with your mouse and dragging the selection.
- You can ignore the auto sum selection by
 - selecting a range with your mouse – go to the first cell, click the mouse, hold down the mouse button, drag to the final cell, let go of the mouse button.
 - Use your arrow keys and the shift key – hit the sum button, arrow to the first cell, hold down Shift, arrow to the last cell, let go of Shift.
- Once you have your selection, tap enter and your formula will be in place.
- You can also skip auto sum and enter the formula =SUM(A9:A22)
 - Type in =SUM(
 - Arrow plus shift or mouse your range
 - Type in)
 - Tap enter

Formatting

- Formatting can make or break your spreadsheet
- The simplest way to format is AutoFormat
 - Click on any cell in a contiguous range of data
 - If your data is not contiguous, use your mouse or shift and arrow keys to select all of your data
 - Alt or mouse to F~~o~~rmat, AutoFormat
 - Scroll through the options and click on the one you like best
 - If you are not happy with the AutoFormat results, simply use the undo button.
- Tip: Once AutoFormat has done its thing, you can make additional enhancements to the formatting in your worksheet if you so desire.

Column Widths

- The default width of a column is 9 characters.
- If your data is larger than will fit the column, you will get this:

#####

- Conversely, if all of your data is substantially shorter than 9 characters, you may find the cell is way too wide.
- To reset the column widths, do the following:
 - Use your mouse to highlight the columns you want to reset by clicking on the column reference cells

D	E	F
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 - Go to the right border of any of those column headings
 - Your mouse will turn into a line with two arrows pointing left and right.
 - When you see this special cursor, double click quickly and the columns will all be set to the optimum size.
 - If you don't like one of the sizes, select that column by clicking on the column reference cell.
 - When you get the double arrow cursor, click your mouse and hold and drag the border right to increase and left to decrease the size of the column.
 - If you have several columns selected when you do the click and drag, it will set all column widths equally based on at what point you let go of your mouse button.

Formatting Headings

- Formatting headings is like formatting in Word.
- Either select the cell or range you want to format, or you can select text within a cell.
- In your toolbar, you have buttons for bold, font and size changes, center, etc.
- To find out what a button does, hover over it with your mouse and its title will appear.
- Some useful buttons for a basic worksheet:
 - The borders button will draw lines across the bottom, sides or around the whole cell.
 - The center button will center the text over the entire cell, even if you change the width of the cell.
 - Use the indent button for sub-categories in rows.
 - Use the bold button for column and row headings.
 - If you are emailing a spreadsheet, consider using color to differentiate between types of data (budget and actual, for example).
 - The fill color button will color the entire block of a cell making it stand out.

Formatting Data

- Excel will line your data up in neat and perfect rows, assuming you use consistent data formatting.
- Number formatting includes decimal places, commas, percentages and dates.
- To format numbers, select the cells using your mouse or shift and the arrow keys.
- Some useful buttons for formatting data:
 - Currency Style will put a dollar sign at the far left of every data cell
 - Percent style will display a fraction as a percent
 - Comma style will put in the comma that you are not allowed to enter yourself.
 - Increase or decrease decimal will change the number of decimals displayed (Excel automatically rounds when you suppress decimals).
- Tip: Formatting does not change the underlying data, only how it is displayed. Excel maintains the actual number regardless of the formatting. This can result in rounding errors (where the sum of a column of numbers as displayed is not the same as the total), be aware of this limitation. There are ways to get around this, but that is material for Excel 101.

Printing

- Unlike a Word document, it is not always clear in Excel what will come out if you push the Print button.
- If you don't specify a print range, Excel will assume that you want to print all of the data on a worksheet and will put as much as will fit on a piece of 8.5 x 11 portrait paper. Any leftover data will be printed out on subsequent pages, even if the data exists to the right, and not below the first page's data.
- Excel will also break the data wherever it sees fit, regardless of whether that would be a logical break in your worksheet.
- If you have data on multiple worksheets (tabs), Excel will generally only print the active worksheet (the one you are looking at).
- Tip: Before you email a workbook to someone, be sure you take the time to format it to print correctly. The recipient will appreciate it and may even have no idea how to do it if you don't.

Page Setup

(printing an attractive document)

- Either mouse or Alt to File, Page Setup
- The first tab of the setup box is Page
 - Select portrait or landscape under orientation – which is best will depend on the size of your spreadsheet.
 - Under scaling, choose fit to one page wide and set the tall to something more than 5.
- The next tab is Margins – if you want your spreadsheet to look attractive, click the center on page horizontally box.
- The last tab you need to use is Sheet
 - If your spreadsheet will cover multiple pages with the same column headings, go to the Print titles section, click on the radial button next to rows to repeat at top and select the rows you want to appear on each page.
 - To set the print range, click on the radial button to the right of the print range box, then select the entire range with your mouse. If you used the print titles feature, start your selection with the row under the headings.
 - Under the Print section, you can click the first box to include gridlines. If you have a lot of data that someone will have to analyze closely, this can be helpful.
- When done, click okay, then from your toolbar, choose the Print Preview button to see how your worksheet will look on a page.

Page Breaks

- From the main spreadsheet window, you can Alt or mouse to View, Page Break Preview. This is your opportunity to make your spreadsheet break in logical places.
- With your mouse, drag the dotted line up or down to fit the data on the page.
- When done, mouse or Alt to View, Normal.
- Tip: If you pull the lines down more than a little bit, your data will shrink and shrink to fit it on the page as you have specified, resulting in an unreadable spreadsheet. Sometimes the data will have to break at odd places.

Finally

- You can profile and save your workbook off to DocsOpen.
- Even more than in Word, save and save often – Excel has a tendency to be a bit unstable.
- You can email your spreadsheet from within DocsOpen or use the yellow paperclip to attach it to an Outlook email.

Tip: Save, save, save. When you first open a new worksheet, immediately create a profile in DocsOpen. Most of your computers have an AutoSave feature which will prompt you to save with a popup box. If the document is profiled in DocsOpen, you will be able to quickly save using this feature.

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