Microsoft Excel 2013: Excel Basics
June 2014

Description
Excel is a powerful spreadsheet program. Please note that in this class we will use Excel 2010 or 2013. Learn how to create spreadsheets, enter and format data, navigate with keyboard and common short cuts, and perform basic mathematical formulas. This is a basic course, addressed to users with no previous experience with the software.

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Learning Objectives
- Identify basic parts of Excel workbook
- Identify cursor types for specific actions
- Navigation basics and common shortcuts
- Basic operations of columns and rows
- Format text, font, color, and alignment and data types
- Use AutoFill to copy a cell or complete a series
- Create simple formulas using functions
- Create and format a chart

Web Resources
- Safari Tech Books Online – electronic books. Type “Safari” in Penn Libraries FindIt box to get the link.
- Lynda.com video tutorials – Weigle information Commons and the Vitale Digital Media Lab have a site license to Lynda.com (http://wic.library.upenn.edu/wicideas/lynda.html).
- Google!
Cursor shapes

- Selection (Wide white cross)
- Moving (Axes with four arrows)
- Editing (Vertical line)
- Resizing (Line with two arrows)
- AutoFill (Skinny black plus sign)
- Menus (Big white slanted arrow)
- Row and Column Selection (Thick black arrow)

Common Shortcuts: Basics

Navigation Keyboard Shortcuts

- Enter - move down one cell
- Shift + Enter - move one cell up
- Tab - move one cell to the right
- Shift + Tab - move one cell to the left
- Arrow - move one cell in the direction of the arrow
- Ctrl + Arrow - find edges of ranges
- Ctrl + End - move to your last active cell
- Ctrl + Home - move to cell A1 (or the first visible cell, if some columns or rows are hidden)
- Ctrl + Page Down/Page Up - move one worksheet to the right/left
- Home - move to the beginning of a row

Selection Keyboard Shortcuts

- Shift + Arrow - select cells
- Ctrl + Shift + Arrow - select a range in the direction of the arrow you pressed
- Ctrl + A - select an entire worksheet

General Keyboard Shortcuts

- Ctrl + Z - undo the last operation
- Ctrl + Y - redo the last operation
- Ctrl + X - cut the selection and store it in the clipboard
- Ctrl + C - copy the selection into clipboard
- Ctrl + V - paste contents of clipboard at cursor
**Rows and Columns: Basics**

Insert, delete, and resize columns and rows

1. On **Home** ribbon, **Cell** group:
   - Insert button: Rows insert **above** the selected row; columns insert to the **left** of the selected column.
   - Delete button: Deletes the row/column selected.
   - Format button: First, use mouse to select range of rows/columns. Then choose Row Height (points) or Column Width (characters).
     **Can also use AutoFit.**

2. Alternative methods:
   1) Right-click on the row number or column letter and select insert or delete.
   2) Position cursor between two rows or two columns to manually increase/decrease width and height. (To the **right** of the column to be resized or the **bottom** of the row to be resized)

**Hide/Unhide columns and rows**

1. On **Home** ribbon, **Cell** group:
   - Format button: Visibility – hide/unhide

2. Alternative methods:
   - Right-click on the row number or column letter and select hide or unhide

**Freeze/Unfreeze**

1. On **View** ribbon, **Window** group, **Freeze Panes** button:
   - a. Freeze Top Row
   - b. Freeze First Column
   - c. Freeze Pane

**Home Ribbon**

**Font group**

- Font color, size, type
- Color fill (Cells, rows, columns)
- Borders

**Alignment group**

- Align text within a cell (height and width) or across cells
- Wrap text
- Merge cells
- Increase/decrease indent
Number group
- Select data format (general, date, time, number, currency, etc.)
- Quick access to
  - currency and other symbols
  - add/remove decimal places

Styles group
- Add a style to your table – automatically applies filter option.
- Apply conditional formatting – select group of cells and choose condition.

Working with Data
Use AutoFill to complete a series
You can use AutoFill across rows and down columns. Use AutoFill to copy data to a range of cells or to complete a series (i.e. text, dates, formulas)

1. Use bottom-right corner:
   1) Type data in one cell and click Enter.
   2) Select cell and then place cursor in bottom-right corner.
   3) Cursor should change shape to a skinny black plus sign.
   4) Click and drag the cursor (down or across) the cells that should contain the series.
   5) In some cases, you will need to select two cells at the start of a series.
   6) If the data in the first cell is copied in all the cells (same data, not a series), click on the AutoFill Option’s box and select Fill Series.

2. Alternative methods:
   Home ribbon, editing group, Fill button

3. Double click:
   1) Auto-fill a series of cells with data or formulas by just double clicking at the bottom-right corner.
   2) The trick works for formulas, auto-fills (of numbers, dates, texts) as long as the adjacent column has data.

Sort and Filter
1. Select a cell in the spreadsheet.
2. Home ribbon, under Editing Group or Data ribbon, Sort & Filter
3. Click Sort and Filter button and select.
   a. Sort
      1) You can choose sort by which column and by which order.
      2) Use Add Level to apply multiple sort criteria
   b. Filter
      1) Click one of the down arrows next to a column header.
      2) Place a check next to data you want to see. You can apply multiple filter criteria within columns and use filter in more than one column at a time.
Formulas

An Excel formula is a mathematical operation used to calculate a value.
- All formulas begin with an (=) equals sign and may consist of functions (i.e. SUM, AVE) or math operators.
- Formulas can include numeric values, but more often they contain cell references (e.g. A1). When you use cell references in a formula, it allows you to make changes to the data in the spreadsheet without having to update the formula. Enclose cell ranges in parentheses.

The formula =SUM (A1:A100) will add up all the values entered in cells A1 through A100. The colon indicates a cell range. You may type the range in the formula manually or click and drag your mouse to select the cells.

The formula =AVERAGE (A1, A3, B2:B10)*.5 will calculate the average of values A1, A3 and cells B2 through B10 and then multiply the average by .5

Three ways to add a formula

1. Manually with Formula AutoComplete
   a. Start typing formula in cell you want the calculated value to appear. A drop down box appears with functions.
   b. Select a function and enter an open parentheses followed by cell references or numeric values.
   c. Close parentheses, and hit Enter to see the calculated value.
2. Formula Ribbon, Function Library group.
3. Function Insert Dialog Box: fx located next to formula bar OR on the Formula ribbon (far left)

Quickly enter a formula in multiple cells

1. Select the cells where you want the formula to go
2. Type the formula into the cell (but don’t press ENTER just yet)
3. Hold the CTRL key down, then press ENTER

Chart
Create an Excel Chart

1. Click and drag mouse to select the data to display in the chart.
2. Go to the Insert ribbon and under Chart group, select the chart type. Chart appears as an embedded object on the active sheet.
Format an Excel Chart

When a chart is created and/or selected, the Chart Tools appear in the Excel Ribbon (Highlighted in green).
The following tabs are located under Excel's Chart Tools:
• **Design Ribbon**: Contains buttons to change the chart type and style
• **Layout Ribbon**: Contains buttons to insert images and customize the chart layout
• **Format Ribbon**: Contains buttons to customize data markers and shapes, add WordArt, and resize chart.