Running Descriptive and Correlational Analysis in Excel 2013

Tips for coding a survey

- Use short phrases for your data table headers to keep your worksheet neat, you can always edit the labels in tables and graphs later on
- Input your survey responses numerical to make running descriptive analysis simpler

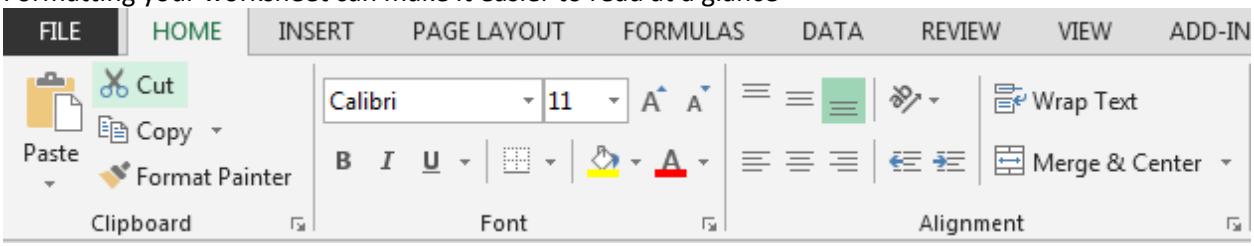
Setting up your worksheet

Some helpful keyboard shortcuts:

Shortcut	Response
Ctrl + C	Copy
Ctrl + V	Paste
Enter	Move down cells in the column
Tab	Move across cells in the row
Ctrl + Z	Undo
Ctrl + Y	Repeat
Ctrl + B	Bold or remove bold text
F1	Displays the help window

Basic Formatting

Formatting your worksheet can make it easier to read at a glance



Tool	Function
B I U	Font styles that will **bold,** *italicize,* or underline your text
	Apply a cell border, the drop down arrow provides more options
	Apply a cell background color (paint can) or change font color
	Text alignment (left, center, or right)
Wrap Text	Wrap text in multiple lines so that it will fit in the cell
Merge & Center	Combine and center selected cells into one large cell

Running Descriptive Statistics

1. Select a cell that you want your analysis to appear
2. Go to the FORMULAS tab in the top ribbon
3. Select *Insert Function* tool, the insert dialogue will appear
4. You can either search for a function or select one from the dropdown menu

Function Name	Function Description
AVERAGE	Mean or Average
MODE	Mode
STDEVA	Standard Deviation

5. Once you selected your function select *OK* and the *Function Arguments* window will appear
6. Next to the *Number 1* input box select the  button
7. Click and drag to select the data you want to analyze in your worksheet
8. Click the  button when you are done selecting your data
9. After selecting *OK* your data will appear in your selected cell

Activating the Data Analysis Toolpack

In order to the Data Analysis tool below, you will have to activated it in your copy of Excel 2013 or download a service pack for your Macintosh Computer

PC users with Excel 2013

1. Click on FILE in the top ribbon
2. Go to *Options* on the bottom left side of the window, a dialogue window will appear
3. In the *Excel Options* window select *Add-Ins* from the left pane
4. Find *Analysis Toolpack* in the Add-Ins menu and activate it by selecting the check box
5. Click *OK* add the Data Analysis tool

Mac Users

To access Add-Ins on a Macintosh you will need to download a third party service pack known as Solver

1. Go to http://www.solver.com/mac and follow instructions to download the service pack
2. Once the service pack is installed start Excle
3. Click *Tools*, and then select *Add-Ins*.
4. Click to select the check box for Solver.Xlam
5. Click OK.

For more help you visit the Microsoft support center:
https://support.microsoft.com/en-us/kb/2431349

Creating a histogram and frequency table using the Data Analysis tool

1. Go to the DATA tab in the top ribbon
2. Select the Data Analysis tool in the *Analysis* group and a dialogue window will appear
3. Under *Analysis Tools* select “Histogram” and select *OK*
4. Next to *Input Range* click the  button
5. Click and drag to select the data you want to analyze in your worksheet

6. Click the  button when you are done selecting your data
7. Next to *Bin Range* click the  button
    a. A bin range is the data categories you want to count
8. Repeat steps 5 and 6
9. Make sure that the *New Worksheet Ply:* is selected under *Output Options*
10. Select *Chart Output* to display your histogram chart
11. Click *OK* and your histogram and frequency table will appear on a new worksheet
    a. You can rename your worksheet by double clicking the worksheet tab
12. A *More* category may appear, you can remove this from you chart by clicking on your chart and dragging the purple and blue lines to exclude the more row

Creating a histogram and a frequency without the Data Analysis tool

Frequency Formula

1. Select the cells you want your frequency to appear in (the number of items you want to count)
2. Go to the FORMULAS tab in the top ribbon
3. Select *Insert Function* tool, the insert dialogue will appear
4. You can either search for FREQUENCY or select it from the dropdown menu
5. Once you selected your function select *OK* and the *Function Arguments* window will appear
6. Next to the *Data_Array* input box select the  button
7. Click and drag to select the data you want to count in your worksheet
8. Click the  button when you are done selecting your data
9. Repeat steps 7 and 8 for *Bins_array,* but this time select the data labels you are counting
10. DO NOT select *OK*, instead when finished press the keys: CTRL+SHIFT+ENTER
11. Your frequencies are now displayed

Histogram Bar Chart

1. After creating your Frequency formula, select your bin and frequency data
2. Go to the INSERT tab in the top ribbon
3. Select the *Recommended Charts* tool in the Charts group, a dialogue window will appear
4. In the *Change Chart Type* window select either a *Clustered Column* or *Pie* chart and click *OK*
5. Your chart will appear on your worksheet

Creation of Correlation using Data Analysis tool

1. Go to the DATA tab in the top ribbon
2. Select the Data Analysis tool in the *Analysis* group and a dialogue window will appear
3. Under *Analysis Tools* select “Correlation” and select *OK*
4. Next to *Input Range* click the  button
5. Click and drag to select the data you want to analyze in your worksheet (both variables)
6. Click the  button when you are done selecting your data
7. Make sure that the *Grouped By* selection correctly reflects your data
8. Select *Labels in First Row* if you selected your data labels in your data
9. Select *New Worksheet Ply* under Output Options
10. Click *OK* and your histogram and frequency table will appear on a new worksheet

Create a Pearson's Correlation formula (without the Data Analysis tool)

1. Select a cell that you want your correlation to appear
2. Go to the FORMULAS tab in the top ribbon
3. Select *Insert Function* tool, the insert dialogue will appear
4. You can either search for PEARSON or select it from the dropdown menu
5. Once you selected PEARSON select *OK* and the *Function Arguments* window will appear
6. Next to the *Array_1* input box select the  button
7. Click and drag to select the your first variable data in your worksheet
8. Click the  button when you are done selecting your data
9. Repeat steps 6-8 for your second variable in *Array_2*
10. After selecting *OK* your data will appear in your selected cell

Create a Correlational Scatter Plot

1. Select both your Y and X variables with labels included
2. Go to the INSERT tab in the top ribbon
3. Select the *Recommended Charts* tool in the Charts group, a dialogue window will appear
4. In the *Change Chart Type* window select *Scatter* and click *OK*
5. Your chart will appear on your worksheet

Design Tab Features

- **Add Chart Elements:** Where to find, add, and edit axes, axis titles, chart titles, data labels, data tables, error bars, grid lines, legends, lines, trendlines, and up down bars
- **Quick Layout:** Change the layout and look of your chart, without changing the type
- **Chart Colors:** Change the color theme of your charts
- **Chart Styles:** Change the layout and color themes in this drop down list
- **Select Data:** Change the data range included in the chart
- **Change Chart Type:** Change to a different type of chart

Page Layout and Printing

Workbook Views: Located in the *View* tab

Normal: the default view in Excel
Page Break: displays where the page breaks will appear when your document is printed
Page Layout: displays how your printed document will look
Custom Views: Save your current display and print settings as a custom view

Page Setup: Located in the *Page Layout* tab

Margins: Set the margin size for your whole current document, or just a section
Orientation: gives your pages a portrait or landscape layout
Size: Choose a paper size for your document
Print Area: Select or deselect an area on the sheet you'd like to print
Breaks: Add a break where you want to the next page to begin in the printed copy. Your page break will be inserted above and to the left of your selection.

Cloud Services

SacFiles Cloud Storage

When saving to your documents you can use a free cloud (internet based) storage service as a student of Sacramento State. Saving your files to a cloud based storage ensures the safety from loss or accidental deletion. You can either access it from a school computer by opening your U: drive or you can retrieve files from your U drive using a personal device. For more information about SacFiles you can visit this link: http://www.csus.edu/irt/ServiceDesk/Support/SacFiles.html

My Cloud Virtual Desktop

Using Sacramento State's virtual computing software you can access programs like Excel and Word 2013 for free, using your own personal computer. All you have to do is install the Citrix receiver to create a virtual desktop that allows free access to some of the programs available on campus computers. Find out more info here: http://www.csus.edu/irt/FAQ/Software-and-Hardware/Virtual-Computing/index.html#what-is-citrix-receiver