

# Spreadsheet Outline

## Included in this outline...

- Introduction
- Getting started
- Enter data (labels & values)
- Inserting functions & formulas
- Formatting options
- Creating charts & graphs

### I) Introduction & Examples

- 1) Introduction PPT
- 2) Show examples from previous semesters

### II) Getting Started

- 1) Open MS Excel and Save new spreadsheet (workbook)
- 2) Go to View -> Normal

### III) Entering Data (Labels and Values)

- 1) Confirm that the Formula bar is visible (View menu > Formula Bar)
- 2) Display Standard and Formatting toolbars (drag to arrange as necessary)
- 3) Entering data
  - a) Enter headings (labels) in row 1 (including Total Points & Percent)
  - b) Enter 15 student names (Last Name, First Name) in column A, row 2-16
  - c) Sorting Names
    - ⇒ Select range of cells first to avoid sorting the entire worksheet
    - ⇒ Click Sort symbol on toolbar or use Data menu > Sort
  - d) Adjusting column widths & row heights
    - ⇒ Drag vertical line separating columns
    - ⇒ Drag horizontal lines separating rows
    - ⇒ Double-click these lines to auto fit column width or row height
  - e) Leave row 17 blank, enter Points Possible in row 18
  - f) Enter Average label in row 19
  - g) Enter assignment scores for each student (don't exceed points possible and save periodically)

### IV) Entering Formulas

- 1) Identify the need to add the grades in row 2
- 2) Demonstrate entering a mathematical formula in cell H2: =B2+C2+D2+E2+F2+G2
  - a) If an error is made when entering formulas, press the ESCAPE key
- 3) Explain how this can be shortened using a Function, =Sum (B2:G2) by inserting =; selecting SUM formula; selecting cells to be summed; hit return.

### Entering Functions

- 4) Review the types of common mathematical functions used in a spreadsheet.
  - a) Sum, Average, Count, etc.
- 5) Calculate data as required by assignment using functions & formulas:
  - a) Calculating the total points per student
    - ⇒ Use function in cell H2 =Sum(B2:G2)
    - ⇒ Use the Autosum feature in cell H3
      - (a) Click once to select cell H3
      - (b) Click the Autosum button. Press Enter to accept the formula.
  - b) Fill the function down the H column
    - ⇒ Select cell H3. Move to lower right of cell until cursor changes. Click & drag down to cell H16. Notice the relative copy of the function.
- 6) Save


- 7) Calculate the total points possible
  - a) Highlight cells B18 through G18.
  - b) Click the Autosum button on the toolbar. Press Enter to accept the formula.
- 8) Calculate the average in each column
  - a) Select Cell B19. Use the Average function:
    - ⇒ Insert menu > Function... > Average
    - ⇒ Drag the function window to right, if necessary, to reveal column B
    - ⇒ Highlight the cells to be included in the average (B2 thru B16)
    - ⇒ Click the OK button
  - b) Fill this formula to the right thru column H
- 9) Save
- 10) Calculate the percentage in each row
  - a) Discuss formula for calculating a % value (H2 divided by H18)
    - ⇒ Total Score will change with each student
    - ⇒ Total Possible will ALWAYS remain the same.
  - b) Demonstrate problem using Fill Down
  - c) Select Cell I-2 and enter =H2/\$H\$18  
(the dollar signs indicate that the reference to H18 is always the same)
  - d) Fill Down
  - e) Select cell I3 to examine the formula
    - ⇒ Notice how H2 changed to H3
    - ⇒ \$H\$18 did NOT change
  - f) Format cells as percentages
    - ⇒ Select cells I-2 to I-16.
    - ⇒ Click the % symbol in the Formatting toolbar to format cells as %
    - ⇒ Click on the Decrease Decimal button in the Formatting toolbar to reduce the number of decimals.
    - ⇒ Using this method, format the percentages in column H and the averages in row 19 to one decimal place.
- 11) Save

## V) Formatting Options

- 1) Format column headings
  - a) Highlight cells (labels) in row 1
  - b) Use the Formatting toolbar to apply bold style
  - c) Explore Fill Color and Font Color options as well
  - d) Alternating fill color
    - ⇒ Select alternating rows using the Control key
    - ⇒ Change the Fill Color (use colors to *enhance* legibility!)
- 2) Changing font face and size
  - a) Formatting toolbar
- 3) Changing column widths and row heights
  - a) Drag or double-click line separating columns/rows
  - b) Highlight a series of rows or columns; move one line and all remaining will be the same height and width
- 4) Changing the contents of a cell

- a) Double-click a cell to make changes directly in the cell.
- b) Single-click a cell and make changes in the formula bar.
- c) Changing the text orientation (so labels in row 1 consume less space)
  - ⇒ Select row 1 (all cells in row 1)
  - ⇒ Format menu > Cells > Alignment tab

## VI) Creating a Chart *Visually representing the data in the workbook*

- 1) Selecting data range:
  - a) Select all cells between columns A–G in rows 18–19
  - b) Using the Control key (PC) or Command  key (Mac) highlight cells A1–G1
- 2) Inserting chart

### Steps for Macintosh platform (*Skip if PC/Windows*)

- a) Insert menu > Chart
  - ⇒ Type of Chart: Column > Cluster Column
- b) Move the chart so that it is not overlapping the gradebook data
- c) Customizing chart in the Formatting Palette
  - ⇒ From the titles pull down menu choose
  - ⇒ Chart Title and name it *Student performance*
  - ⇒ Horizontal (Category) Axis - name *Assignments*
  - ⇒ Vertical (Value) Axis – name *Points*
- d) Explore other chart options
- e) Chart Data manipulation
  - ⇒ Chart menu > Source data; Chart options...

### Steps for Windows/ PC platform

- f) Insert menu
  - ⇒ Column 2-D Column > Clustered Column
- g) Customizing Chart (chart must be selected to see chart tools)
  - ⇒ Select Layout tab from the Chart Tools menu
    - (a) Click Chart Title icon: name it *Student performance*
    - (b) Click Axis Titles icon:
      - (i) name the Primary Horizontal Axis *Assignments*
      - (ii) name the Primary Vertical Axis *Points*
- 3) Chart Formatting
  - a) Changing the chart colors
    - ⇒ Double-click on any part of the chart, including text boxes
    - ⇒ Select desired color & other options
    - ⇒ Can use the formatting toolbar as well
    - ⇒ Single click chart elements, then use the formatting toolbar