

Microsoft® Excel: Excellent Gradebooks

A Workshop for San Diego State University Faculty and Staff

BATS
Baseline Access,
Training & Support



Where to Find Help When You Need It

Help from your Division/College's Computer Consultant

Some divisions and colleges have computer consultants assigned to them. You can contact these consultants when you need help. To determine if you have a consultant assigned to your division or college, look to: <http://rohan.sdsu.edu/~facstaff>

Help from the BATS Web Page

BATS (Baseline Access, Training and Support) is a California State University initiative to provide all students, faculty, and staff with "baseline" access to information resources via networks, training in the uses of baseline hardware and software systems, and ongoing professional and technical support for utilization of computer resources at San Diego State University. You can access the BATS Web Page by pointing your browser to:

<http://rohan.sdsu.edu/~bats/>

Help in the San Diego State University, Faculty Room

The Faculty Room is staffed Monday through Friday with computing consultants who will try to answer your questions.

Location: Adams Humanities, 1109
Phone Number: x45727
Semester Hours: 7:30am – 6:00pm Monday -Thursday
7:30am – 4:30pm Friday
Semester Intersession: 7:30am – 4:30pm Monday – Friday

Help from the Faculty Computing Help Line

Phone Number: x41348 **E-mail:** helpline@mail.sdsu.edu
Semester Hours: 7:30am – 6:00pm Monday – Thursday
7:30am – 4:30pm Friday
Semester Intersession: 7:30am – 4:30pm Monday – Friday

Help from the Staff Computing Help Line

Phone Number: x40824 **E-mail:** staffhelp@sdsu.edu
Semester Hours: 7:30am – 6:00pm Monday – Thursday
7:30am – 4:30pm Friday
Semester Intersession: 7:30am – 4:30pm Monday – Friday

Using Microsoft Excel to keep track of your Students' Grades

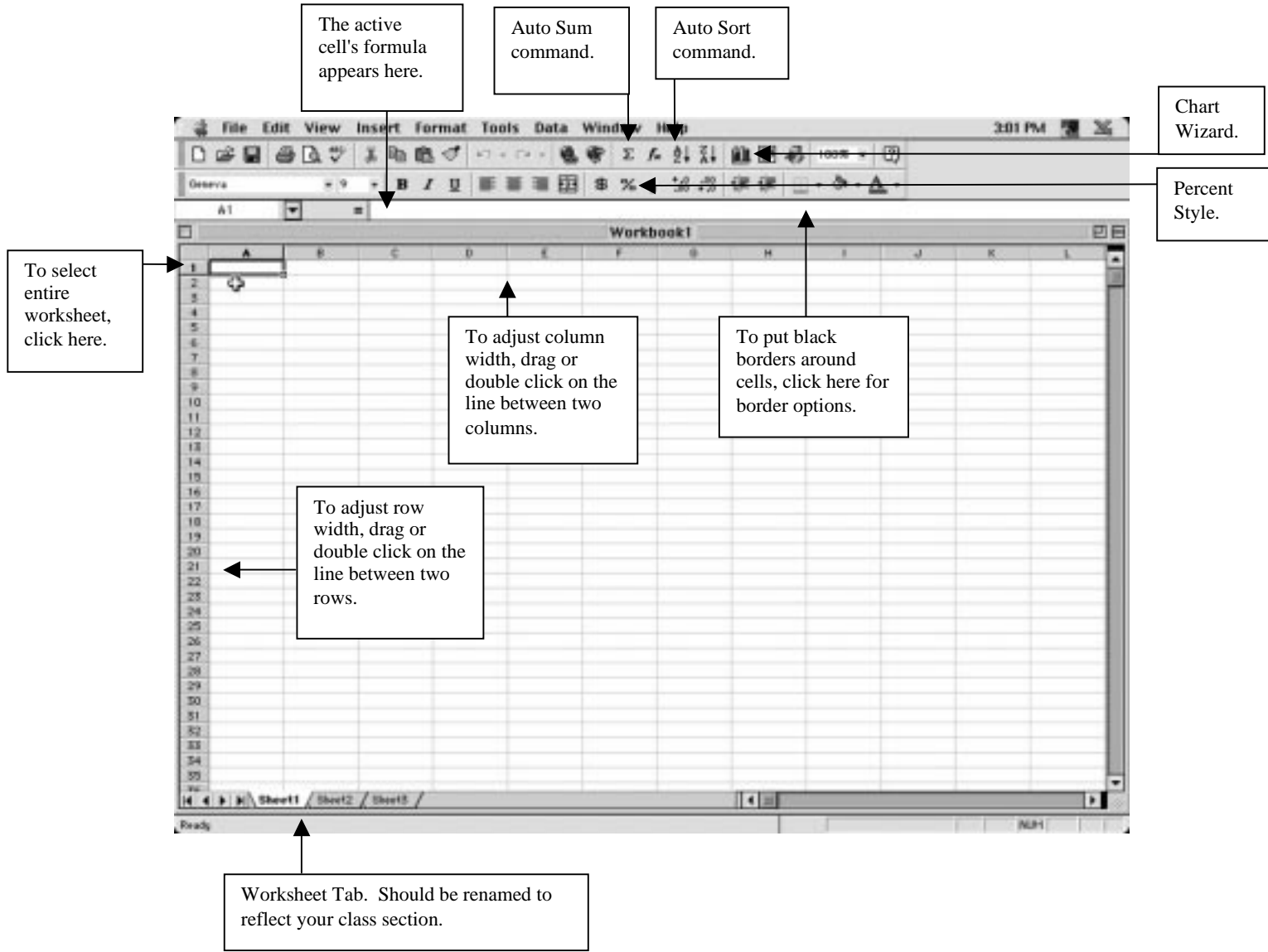
This hands-on workshop will give you the tools to create, design, and format a **simple** class grade sheet. Using Microsoft Excel's power to calculate formulas based on values in a worksheet, we will practice making a grade sheet together and then, time permitting, convert a current copy of your written grade sheet to a MS-Excel grade sheet. This workshop assumes a general familiarity with the topics covered in the Introduction to MS-Excel workshop.

The following topics will be covered...

The Excel Screen.....	1
Downloading Your Roster from the Registrar's Office	2
Text Import Wizard Box	2
Formatting your Imported Data.....	3
Entering Data.....	4
Creating and Working with Simple Formulas (average; sum; percentage)	4
Entering Functions	6
Creating an "If - Then" Formula	7
How to find the Formulas you need for more Advanced Analysis	7
Linking Data in Multiple Worksheets.....	7
Creating a Customized Chart of your Worksheet Data.....	8
Formatting your Chart.....	9
Other Grade sheet Options	9
Shortcut Keys – Windows.....	10
Shortcut Keys – Mac	10

The Excel Screen

*Note that this is a picture of the MExcel98 for Mac screen. The MS Excel 97 for Windows screen is slightly different.



Downloading Your Roster from the Registrar's Office

The SDSU Class Roster Program at:

<https://www.sdsu.edu:444/roster/index.php>

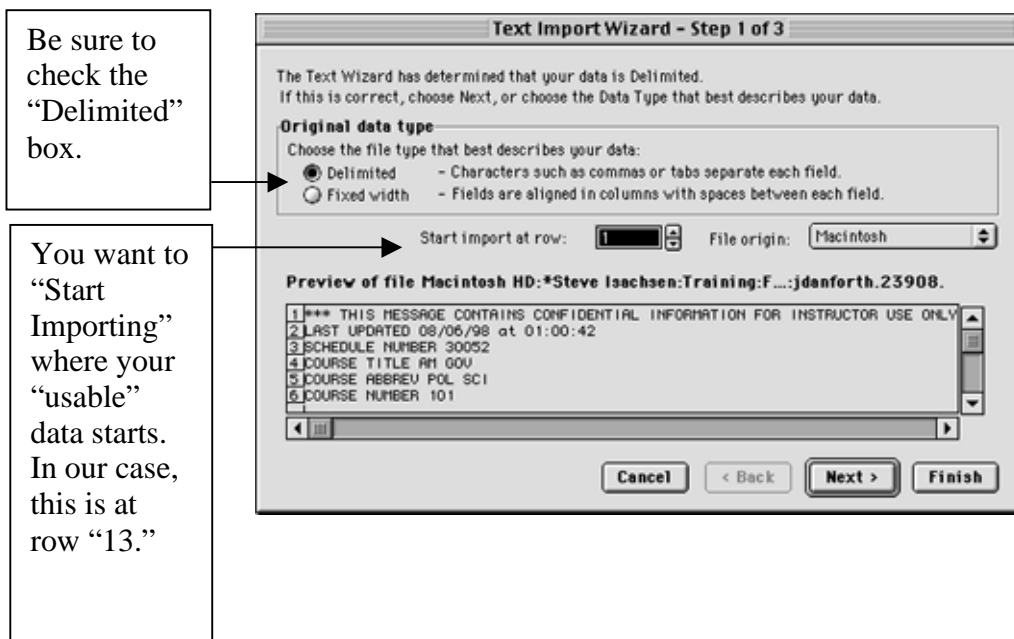
allows Faculty and certain Staff to receive class rosters via e-mail. This service is provided by Admissions and Records for the SDSU campus. To use this service, you need an E-mail address and a WWW browser. First Time users must register to use the SDSU Class Roster service. Registered faculty can only request rosters for classes in which they are the formal instructor.

To “import” this roster into Excel, request that your roster be sent in **ASCII text**, and the file be **tab delimited**. For the purposes of this workshop, we have created a “mock” file (jdanforth.23908) of this attachment to work with on your floppy disk.

1. Start **Microsoft Excel**.
2. Choose **File, Open**.
3. Open the file on your floppy disk, **jdanforth.23908**.

The following “Text Import Wizard” dialog box will appear.

Text Import Wizard Box



1. Choose **Delimited**.
2. Choose **Start import at row**, Enter **13**.
3. Choose **Next**.
4. Be sure that the **Tab** box is checked under Delimiters.
5. Choose **Next**.
6. In the "Data Preview" window, use the right scroll down button until you see columns of data.

7. Select **Columns 3, 4, 5, 6 and 7**. Note that an easy way to select all 5 of these columns at the same time is to press the Shift key while Clicking on each column. This will allow you to select more than one column at a time.
8. Under general Data Format, Select **Do Not Import Column (Skip)**.
9. Choose **Finish**.

Formatting your Imported Data

When your roster data is brought into Excel, it is unformatted. Begin by formatting the imported data.

1. Delete the rows of data, which are unnecessary to your grade sheet. These rows include data such as "letter" and "+/- letter."
2. Select these rows simultaneously on a Mac, by holding the **Command** key when you **click**. On Windows, hold down the **Ctrl** key when you **click**.
3. Once the rows have been selected, choose **Edit, Delete**. Or on a Mac, use **Command + K**. On Windows, use **Ctrl+X**.

Format the width of your columns to fit the name & social security number.

1. Click the **column heading** to select the entire column. To select both columns, press the **Shift** key, while clicking **both columns** or, click on **column A**, then while holding your mouse button down, slide your **cursor to column B**.
2. Position the mouse pointer on the **right border** of the heading of the columns. The mouse pointer changes to a **double-headed horizontal arrow** when positioned properly. Drag the arrow to the **right** to increase the column width.

Note that you can tell Excel to make the column width *exactly* large enough for the largest piece of data in the column, by **double clicking** at the **double-headed arrow**.

Now, insert five rows above the first row of data.

1. Select the rows **1, 2, 3, 4, 5**.
2. Choose **Insert, Rows**.

Insert a column so you can number your students

1. Select **column A**.
2. Choose **Insert, Columns**.
3. In cell A6, type **1**.
4. In cell A7, type **2**.
5. Copy cells **A5 & A6** through **A30**. This will give you room for 25 students.

Entering Data

We have now imported and formatted the bulk of our student data. At this point, we are ready to enter and format our column headings.

1. In cell **B1**, type in **John Danforth**
2. In cell **B2**, type in **Political Science 1**
3. In cell **B3**, type in **T/TH 9:00-10:30**
4. In cell **A5**, type in **#**
5. In cell **B5**, type in **Student Name**
6. In cell **C5**, type in **SS#**
7. In cell **D5**, type in **Quiz 1 (10)**
8. In cell **E5**, type in **Exam 1 (20)**
9. In cell **F5**, type in **Quiz 2 (10)**
10. In cell **G5**, type in **Exam 2 (20)**
11. In cell **H5**, type in **Quiz 3 (10)**
12. In cell **I5**, type in **Final (30)**
13. In cell **J5**, type in **Total (100)**
14. In cell **B31**, type in **Class Average**
15. Bold the data entries in cells **B1, B2, B3, A5, B5, C5, D5, E5, F5, G5, H5, I5, J5, B31**. You can do this one of two ways. Select the data, then Bold the data by using the **Bold Icon** on your toolbar. Or, on a Mac, select **Command +B**. On Windows, press **Control+B**.

Place borders around your data.

1. Select cells **A6** through **J30**.
2. Select **Format, Cells**.
3. Select the **Border** tab, then select **Outline** and **Inside**, click **Ok**.

Remove your background gridlines.

1. Selecting **Tools, Preferences**.
2. At the view tab, under **Window Options**, Deselect **Gridlines**.

Save your grade sheet to your floppy diskette. Name the file **grade sheet1**.

Creating and Working with Simple Formulas (average; sum; percentage)

We will now enter formulas for our grade sheet. We will create our formulas by typing directly in the cell, which we would like to compute our data. We will enter the cell addresses and numeric operators.

To start a formula, you always need to use = (equal) sign.

Sum

To compute each student's individual Total Grade in the class, follow these steps:

1. Point to cell **J6**.
2. Type = (**equal**) sign to start the formula.
3. Type the cell addresses containing the values to be computed. Place a + sign between each cell address, to tell Excel to add each cell.

- To find the sum of Student #1, in cell J6, type in
=D6+E6+F6+G6+H6+I6
- Press Enter. Excel displays the result of the formula in the active cell, and the formula appears in the formula bar. The result is 0 because we have not entered any of this student's scores.

Before copying this cell's formula for Total grade to the rest of the rows, confirm that your formula works.

- Type in the following scores for Alvarez, L. Quiz 1, **8**; Exam 1, **18**; Quiz 2, **8**; Exam 2, **15**; Quiz 3, **9**; Final, **26**.
- Confirm that the Total Grade for Alvarez, L. is **84**.

Convert this to a percentage, by editing cell J6's formula.

- Select cell **J6**.
- At the formula bar, after the I6, type in ***0.01**. The formula should now read, **=D6+E6+F6+G6+H6+I6*0.01**
- Press Enter.

Note that the result is **58.26**. This result is incorrect because now that we have added multiplication to our formula, Excel must be told the proper order in which to compute its functions. In this case, for example, Excel is computing this formula by first multiplying 0.01 by I6, then adding D6 through H6. Instead, we would like Excel to add D6 through I6, then multiply by 0.01.

Most formula errors occur when the mathematical operators are not entered in the proper order of **precedence**. The following is the order of precedence for mathematical operations in a formula:

*, /	Multiplication, division
+, -	Addition, subtraction

You can change the order of precedence by enclosing segments of the formula in **parentheses**. Excel first performs all operations within the parentheses and then performs the rest of the operation in the appropriate order.

Note that each open parenthesis must be matched by a closed parenthesis, or Excel will not accept the formula.

- Fix this formula by adding **parenthesis** to the formula.
- Select cell, **J6**.
- Go the **formula bar** to edit the formula.
- Add parenthesis so that the formula now reads: now read,
=(D6+E6+F6+G6+H6+I6)*0.01

Format the cell to a percentage.

1. Selecting cell **J6**, choose the **%** format icon on your toolbar.

Use this same formula to compute the Total grade for all of the students in John Danforth's class.

1. Select cell **J6**.
2. Position your cursor in the lower right hand corner of the cell **J6**, over the very small box in the lower right hand corner of the cell, until you see **cross-hairs**.
3. **Click once** and drag to **J30**.
4. **Release** the mouse button.
5. This copies the same formula in **J6** through **J30**. Note that Excel knows to change the cell locations as it copies the formula so that your formula stays *relative*. This feature is called the **fill-handle**.

Entering Functions

Functions are predefined formulas. Excel provides more than 200 built-in functions that enable you to create formulas easily for a wide range of needs. Each function consists of the equal sign, and the function name. To enter a function in the active cell, type = (**equal sign**), followed by the **function name** (for example, SUM), followed by an **open parenthesis**. Then specify the **cell or range of cells** you want the function use, followed by a **closed parenthesis**. When you press Enter to enter the function in the cell, Excel displays the result of the formula in the cell.

If you are not sure how a particular function works, the Function Wizard can guide you through the process of entering a function.

Average

To compute the average class score for each exam using the average function, follow these steps.

1. Point to cell **D31**.
2. Type = (**equal**) sign to start the formula.
3. To find the average, enter =**AVERAGE (D6:D29)**
4. Press **Enter**
5. Copy this cell's formula through cell **J31**.
6. Convert this score to a percentile by multiplying by **0.01**.

Try a quicker way to select the cells you would like to average, where you type =**AVERAGE** (and use your cursor to select the area you would like to average).

Creating an "If - Then" Formula

To finish creating John Danforth's grade sheet we need to create an "If - Then" formula. This formula will tell the grade sheet that **if** a student's grade falls within a certain percentage, **then** they will receive the letter grade designated for that percentage. We will use the following grade scale for this formula.

90-100 =	A
80-90 =	B
70-80 =	C
60-70 =	D
<-60 =	F

Begin this process by completing the following.

1. In cell **K5**, type in **Letter Grade**. Bold cell **K5**.
2. In cell **K6**, type in the following formula.
`=IF(J6>0.89,"A",IF(J6>0.79,"B",IF(J6>0.69,"C",IF(J6>0.59,"D",
"F"))))`
3. Press **Enter**.
4. Copy this formula through cell **K30**.

This formula can be modified to reflect any grading scale (A, A-, B+, etc) you wish by substituting/adding the appropriate data/letter grade following the structure of the formula.

Save your worksheet.

How to find the Formulas you need for more Advanced Analysis

Errors can also occur when you enter formulas in Excel. While Excel often will provide help along the way with questions as to where a problem might be within your formula, the interactive Help Tutorial on formulas can be a valuable resource. To access Excel's Help screens for formulas, choose Help on the toolbar, and then click on Contents and Index. Select the Index tab, and type error values. Click Display. Click on "About examining the structure of formulas", or "Using Functions to Calculate Values", Click Display.

Linking Data in Multiple Worksheets

Now let's open our grade sheet with all of the student data entered in. This grade sheet has been formatted exactly like the one you just completed. On your floppy disk, this grade sheet is titled **gradesheet2**.

Let's create a link between some of the data on the first sheet, and the second sheet. On our second sheet, let's ask Excel to calculate how many A's, B's, C's & D's we have.

1. Select **Sheet 2**
2. In cell A1, type **A**
3. In cell A2, type **B**
4. In cell A3, type **C**
5. In cell A4, type **D**

6. In cell A 5, type **F**
7. In cell B1, =COUNTIF(
8. Switch back to **Sheet 1**
9. Highlight **Column K**
10. Press **Enter**
11. At the error message, click **Okay**
12. Go to the formula bar in **Sheet 2**, to edit the formula
13. Type in , "A")
14. The formula should now read =COUNTIF('Excel Handout, 9/21/98!K6:K28,"A")
15. Press **Enter**
16. Repeat this process in cells **A2, A3, A4, A5**.
17. Substitute in the appropriate grade reference.
18. For example, cell B2 should read =COUNTIF('Excel Handout, 9/21/98!K6:K28,"B")

Note that information you change in Sheet 1 will automatically be updated in Sheet 2. For example, on Sheet 2, the number of A's your formula states is: 4. If you go to Sheet 1, and change student number 23's final Exam score to 30, this would give this student an A, thereby increasing the number of your students with A's by one. Now go to sheet 2 and notice that the number of students who have received an A increased by 1.

Creating a Customized Chart of your Worksheet Data

Charts enable you to present worksheet data in graphical form. When you create a chart, the worksheet data used to create the chart is linked to the chart - this is called a "relational chart." In a relational chart when your spreadsheet data is changed, your chart is updated to reflect those changes. To create an embedded chart with the ChartWizard, follow these steps:

We will make a grade distribution chart to graphically show how many students received each letter grade.

1. Go to **Sheet 2**
2. Select the **data** you want to chart (A1 through B5).
3. Click the **ChartWizard** button.
4. Click chart type, **Column**.
5. Click chart sub-type, **Clustered Column**.
6. Click **Next**.
7. Be sure that **Series In, Columns** is checked.
8. Click **Next**.
9. At the Titles tab, change to Chart Title to **Grade Distribution**.
10. At the X Axis label, Change to **Letter Grade**.
11. At the Y Axis label, Change to **Number of Students**.
12. At the Legend tab, be sure that **Show Legend** is **unchecked**.
13. Click **Next**.
14. Select place chart as: **Object in New Sheet**.
15. Click **Finish**. The chart appears in the worksheet

Note that for Axis Titles: your X variable is across, and your Y variable is vertical

Save your file, **grade sheet 2** to you disk.

Formatting your Chart

There are 14 chart types to choose from, and each has a number of possible variations. Experiment to find the chart that most effectively presents your data. You can change the chart type by clicking Chart Type from the Chart menu and selecting the type you want. You can also format any chart in Excel by selecting the chart and double-clicking. Some of the formatting options available to you are the following:

1. Changing the color
2. Patterns
3. Scale
4. Font
5. Alignment
6. Options
7. Series Order
8. Data Labels

Other Grade sheet Options

While using Microsoft Excel for your grade sheet offers many advantages over doing your grades with pencil and paper, a software program called **Par Score** goes beyond MS Excel with its ability to feed Scantron data directly into the program. This cuts down on test data entry time considerably, especially for large classes (30+).

If you are interested in learning more about **Par Score**, call the Faculty Room at 594-5727 to schedule an appointment for a demonstration.

Shortcut Keys – Windows

Ctrl + N	Opens a new file
Ctrl + O	Opens an existing file
Ctrl + S	Saves a file
Ctrl + P	Prints the active document
Ctrl + F4	Exits the application
Ctrl + Z	Undoes last action
Ctrl + X	Cuts the selection
Ctrl + C	Copies the selection to the Clipboard
Ctrl + V	Pastes a selection from the Clipboard
Ctrl + B	Bold on/off
Ctrl + I	Italics on/off
Ctrl + Shift + W	Underline

Shortcut Keys – Mac

COMMAND + N	Opens a new file
COMMAND + O	Opens an eCommandisting file
COMMAND + S	Saves a file
COMMAND + P	Prints the active document
COMMAND + Q	ECommandists the application
COMMAND + Z	Undoes last action
COMMAND + X	Cuts the selection
COMMAND + C	Copies the selection to the Clipboard
COMMAND + V	Pastes a selection from the Clipboard
COMMAND + B	Bold on/off
COMMAND + I	Italics on/off
COMMAND + U	Underline