

Basic Microsoft *Excel* 2002

(Demonstrated on Windows XP)

An Introduction to Spreadsheets

Adapted from *Taskstream* Word Tutorial (2005) < <http://www.taskstream.com> >

What Can Microsoft *Excel* Do for Teachers?

Microsoft *Excel*, a spreadsheet application, is a great tool for recording, organizing and manipulating data. Basic knowledge of this application will allow you to:

- **Record and calculate grades**
- **Organize classroom information**
- **Collect and analyze data**

What's In This Tutorial?

This tutorial will guide you through:

1. Entering data into a spreadsheet
2. Using the computational features of a spreadsheet to create a grade book for your class
3. Formatting data in a spreadsheet

Requirements

The following must be submitted for partial credit to meet the spreadsheet technology standards set by California for educators:

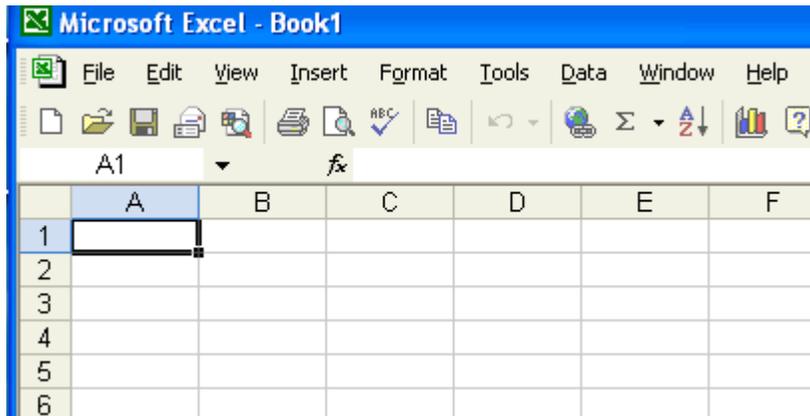
A hardcopy of a spreadsheet document demonstrating usage of:

1. Varying fonts
2. Varying font sizes
3. Formulas
4. Options including Borders, Boldface, Italics, Color, and Sorting.
- 5.** A sample grade sheet (see below exercise: 291_Grades.xls).

Basic Microsoft Excel 2002

I. Getting Started

Open **Excel** from the icon on your desktop or from **Start** → **All Programs** → **Microsoft Excel**. A full screen version similar to the image below will appear with no entries in the spreadsheet.

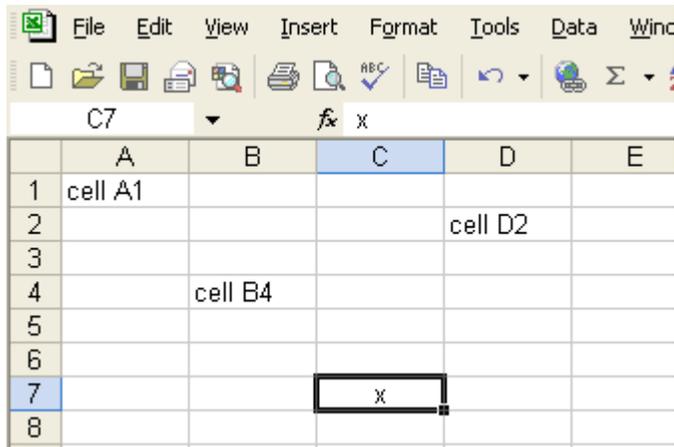


A spreadsheet has three major components – COLUMNS, ROWS, and CELLS:

- COLUMNS are indicated by letters at the top of the spreadsheet.
- ROWS are indicated by numbers on the side of the spreadsheet.
- CELLS are the little boxes in the spreadsheet.

Using the mouse and scroll bars, you can scroll right and down to see that there are many, many more columns and rows than you will probably ever need. You can also use the keyboard arrows to move around the spreadsheet.

Each cell in the spreadsheet has an address that is stated as its column letter and its row number. We have entered some cell addresses in the picture below to illustrate the system. What do you think is the address of the cell marked with the letter X?



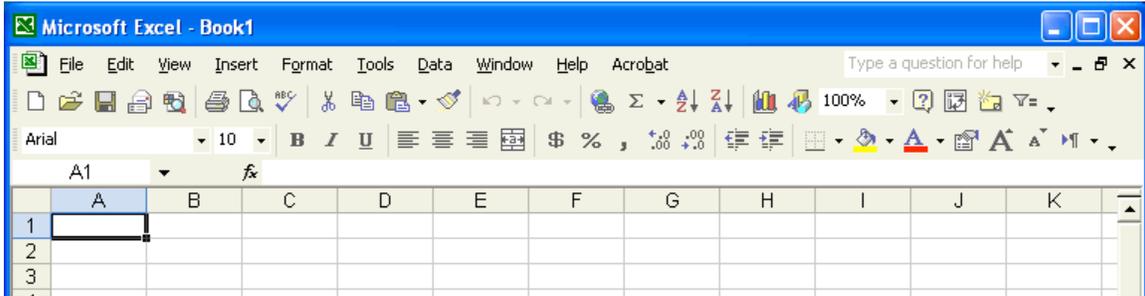
If you guessed that cell "X" has an address of C7, you understand the scheme.

*Note: The A1 cell is called the **origin**.*

Basic Microsoft Excel 2002

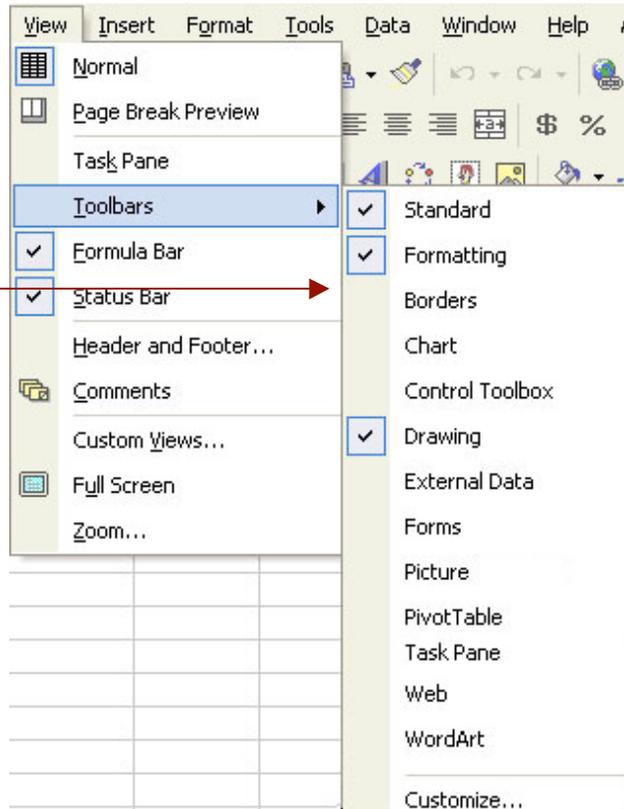
II. Setting the Toolbar

Look at your **Toolbar** at the top of your page, just below the **Menu**. It may look somewhat like the below [A few additions have been added by the instructor on this sample].



How to **customize** your own **Toolbar** will be shown in a bit. It is possible that several of the tools you'll need to work on do not appear on your **Toolbar**. It is recommended that you add some viewing features (you'll only have to do this once) to make **Excel** more convenient for your usage.

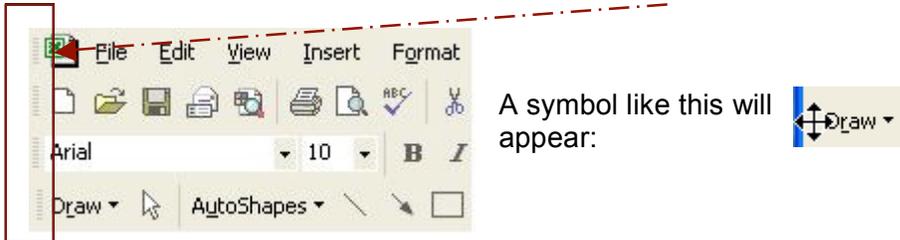
Go to **View** on the top **Menu**. Scroll down to you see **Toolbars**. When that appears, you'll have a list of viewing options appear. Check the minimal options of **Standard, Formatting, and Drawing**. See the following sample:



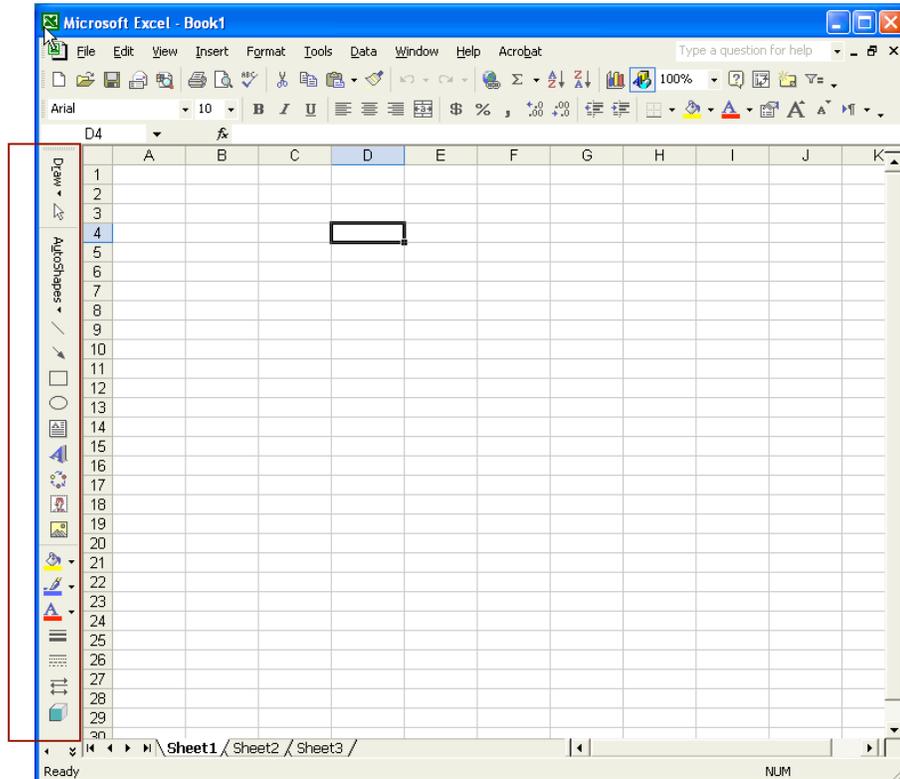
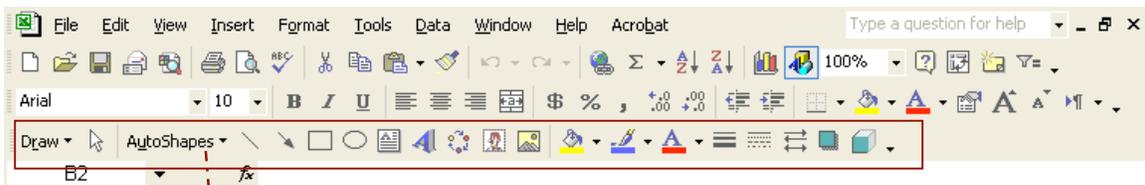
When that is done, you should see a **Toolbar** similar to the sample below. (Remember that the instructor has customized his **Toolbar** with some additional features. This can be done by highlighting **Customize** and following the directions to add features.)

Basic Microsoft Excel 2002

It is recommended you move your **Draw** toolbar to the left-side of your document. To do this, click your mouse on the small lines to the left of the menus.



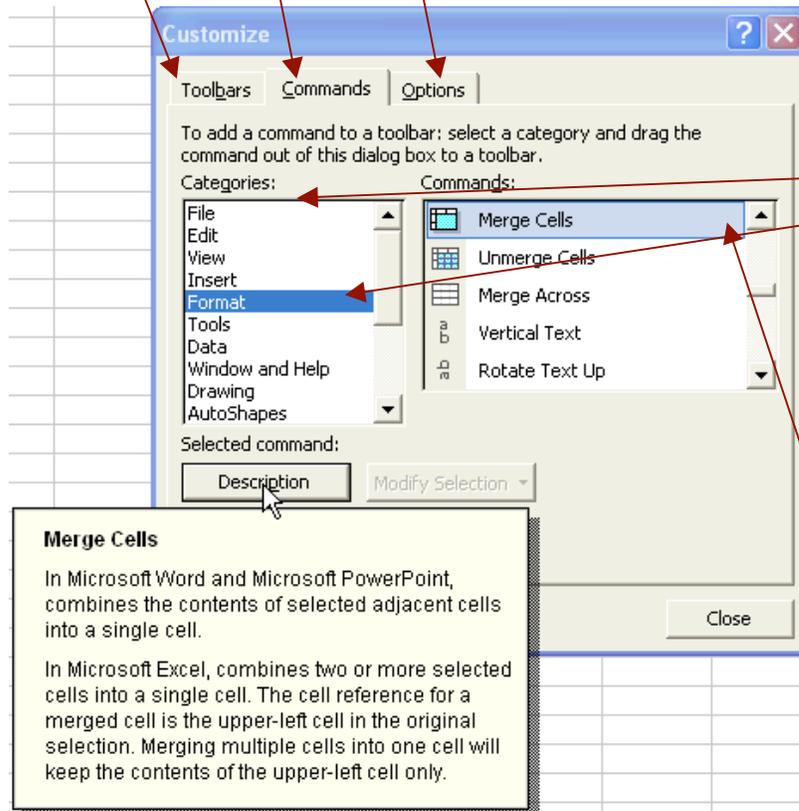
You can now drag the toolbar around the Excel window. However, if you prefer, you can leave the toolbar on the top or bottom of your spreadsheet.



Basic Microsoft Excel 2002

To **Customize** your **Toolbar**, go back to the **Menu** and select **View**. Scroll down to **Toolbars** and then highlight **Customize**.

A dialogue box will appear looking like this. There are three selections you can make (**Toolbars, Commands, Options**).

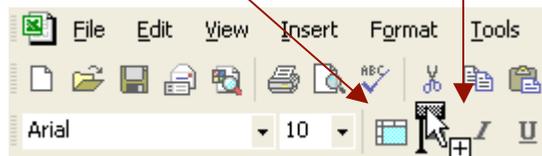


First choose **Commands** and then one of the options under **Categories**. In this example, **Format** was chosen.

You can then select which command you wish to add to your **Toolbar**. Highlighting the desired tool in the right-hand side of this screen can do this.

In this case, **Merge Cells** was highlighted. Description has been selected for you to see.

Now, just drag this highlighted command to where you want to locate it on your **Toolbar**. Look for the arrow on the icon to turn from an **X** to a **+** (plus), as shown here. When you release the mouse, the **Merge Cells** icon will appear.



This customized **Toolbar** will save you time looking for editing features under the **Menu** function.

Basic Microsoft Excel 2002

III. Entering and Changing Data: Some Basic Procedures

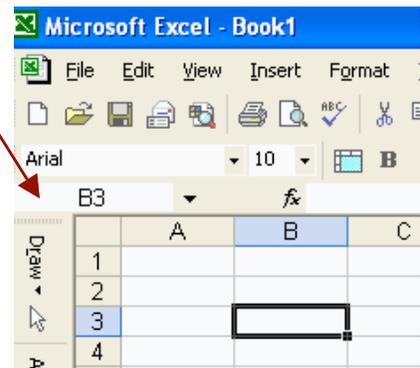
Depending on your needs, you can enter any type of data, such as letters, words, numbers, or any combination of the three, into a cell.

Selecting a Cell

To make an entry in a cell, click on the cell to select it. The selected cell will be displayed with a colored outline. The cell's address will appear in a white text field below the **File** menu near the top left corner of the screen.

Here is a picture of the spreadsheet with the **B3** cell selected.

Notice that the label "B3" appears on the toolbar.



Making an Entry

To make an entry, place your mouse pointer in a cell and click to select it. Double-click on the cell, and when you see the blinking cursor you may begin typing.

After entering information in a cell:

Pressing the **Tab** key will take you to the next cell to the right. Pressing the **Enter or Return** key will take you down one row in the same column.

You can also use the keyboard arrows to navigate the spreadsheet.

IV. Creating a Grade Book in Excel

Now that you understand the basics, let's make a sample grade book. First you will need to label the columns and rows in your spreadsheet:

Labeling the Columns

Move your mouse pointer to the cell **C1**, click to select it, and then double-click to see the blinking cursor. Type in the column labels, which are shown in the image below. These will show the exams given in the computer class. This is a good place to indicate the units for your data. Since the data we will be using deals with exam scores, type in the (%) sign.

	A	B	C	D	E	F	G
1			Exam 1 (%)	Exam 2 (%)	Exam 3 (%)	Exam 4 (%)	Exam 5 (%)
2							

Now move your mouse to the cell **A1** and type in the text - **First Name**. Move your mouse to the cell **B1** and type in the text - **Last Name**.

	A	B	C	D	E	F	G
1	First Name	Last Name	Exam 1 (%)	Exam 2 (%)	Exam 3 (%)	Exam 4 (%)	Exam 5 (%)
2							

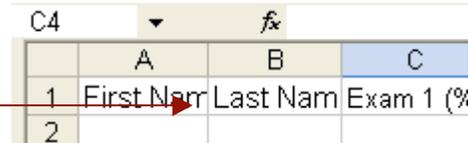
Basic Microsoft Excel 2002

Changing the Size of the Cell

You may find that a column is not wide enough to fit data or the column label.

Look at the picture:

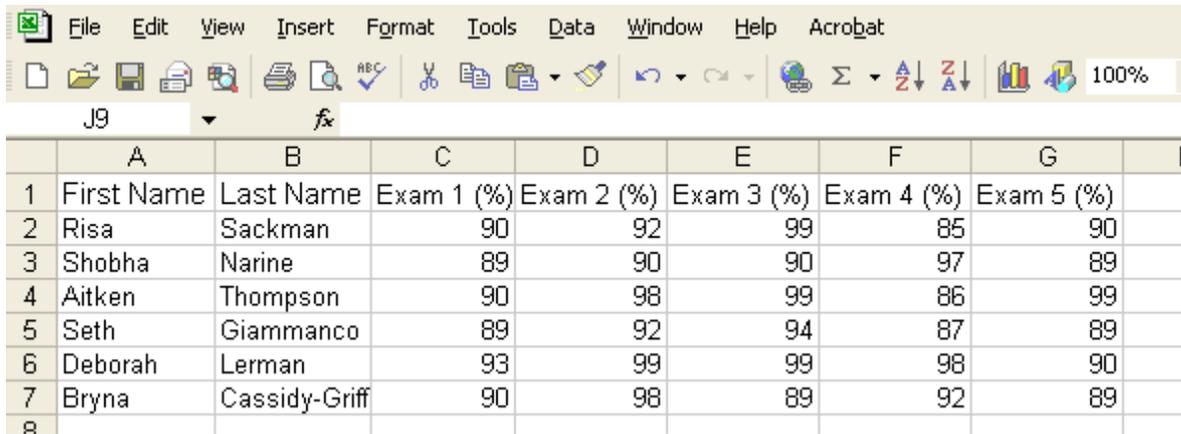
Notice that the 'A' column is not wide enough to fit the label 'First Name.'



No problem! You can widen the column. Using your mouse, roll your cursor across the top alphabetic row (the headings for each column). Your cursor should change from a plus sign to a bar with arrows pointing left and right. When the cursor changes to this shape, double click the mouse. This will make the column wide enough to fit the contents of the column. 

Now widen the column labeled 'Last Name.' You may also need to widen the other columns.

Enter the additional sample data shown in the image on the right, including the **Exam** columns and in the **First** and **Last Name** columns



Changing an Entry

We discovered that we made two wrong entries:

- Risa Sackman's grade for **Exam 4** should be **96**, cell **F2**
- Deborah Lerman's grade for **Exam 1** should be **92**, cell **C6**

To change the entry in cell **F2**, click on the cell to select it. The entry will appear in the **f_x** or **Edit** line. Highlight the entry in the **Edit** line by simply clicking your mouse at the beginning. It is shown below, highlighted in black. This is what it looks like:

Basic Microsoft Excel 2002

	A	B	C	D	E	F	G
1	First Name	Last Name	Exam 1 (%)	Exam 2 (%)	Exam 3 (%)	Exam 4 (%)	Exam 5 (%)
2	Risa	Sackman	90	92	99	85	90
3	Shobha	Narine	89	90	90	97	89
4	Aitken	Thompson	90	98	99	86	99
5	Seth	Giammanco	89	92	94	87	89
6	Deborah	Lerman	93	99	99	98	90
7	Bryna	Cassidy-Griff	90	98	89	92	89

You can see the number **85** in the **Edit** line. Click on the **Edit** line to place the cursor after the number.

Using your **Backspace** key, delete **85** and replace it with a new entry: **96**. Press **Enter**. Repeat this process for cell **D6**, changing **93** to **92**, and press **Enter**.

Using the Spreadsheet to Compute Grade Book Data

One of the most useful aspects of a spreadsheet is the mathematical power it has, similar to a super calculator. We want to find the exam average for each student. This means we have to find the sum of the scores and divide the sum by the number of exams, which is five.

Let's start by placing an "**Exam Average**" label in the first row of **column H**, that is, in cell **H1**. Then press **Enter** to move to **H2**. Widen your new column to fit the label.

To tell the spreadsheet that you wish to do a calculation in a cell, you must always enter an equals symbol ("=") first.

With a spreadsheet, instead of entering the values enter the cell address of the values you wish to use in the calculation. You can type in the address in upper or lower case, as well as the arithmetic sign (called an operator).

Try the following example:

	A	B	C	D	E	F	G	H
1	First Name	Last Name	Exam 1 (%)	Exam 2 (%)	Exam 3 (%)	Exam 4 (%)	Exam 5 (%)	Exam Average
2	Risa	Sackman	90	92	99	96	90	=SUM(C2:G2)/5
3	Shobha	Narine	89	90	90	97	89	
4	Aitken	Thompson	90	98	99	86	99	
5	Seth	Giammanco	89	92	94	87	89	
6	Deborah	Lerman	92	99	99	98	90	
7	Bryna	Cassidy-Griff	90	98	89	92	89	

Basic Microsoft Excel 2002

Here is what the spreadsheet should now look like:

	A	B	C	D	E	F	G	H
1	First Name	Last Name	Exam 1 (%)	Exam 2 (%)	Exam 3 (%)	Exam 4 (%)	Exam 5 (%)	Exam Average
2	Risa	Sackman	90	92	99	96	90	93.4
3	Shobha	Narine	89	90	90	97	89	91
4	Aitken	Thompson	90	98	99	86	99	94.4
5	Seth	Giammanco	89	92	94	87	89	90.2
6	Deborah	Lerman	92	99	99	98	90	95.6
7	Bryna	Cassidy-Griff	90	98	89	92	89	91.6

*Note: You can undo any operation you have just done by selecting **Undo** in the **Edit** menu. You can also undo by holding down the **Ctrl** key on your keyboard and pressing the letter **Z**.*

Now that you understand the basics, it is time to make your spreadsheet look nicer.

IV. Formatting your Spreadsheet

Look at your column headings. They don't stand out, but blend in with the text. We can change the formatting of the heading just as we would in a word processing document. Select all of the column headings (First Name, Last Name, Exam (1-5) and Exam Average). Since they are all in the same row, this is relatively easy to do: just click the number 1 in Row 1. (You may notice an arrow over the numbers.) You can also click and hold down your mouse button and drag it across the headings. The entire row should be selected.

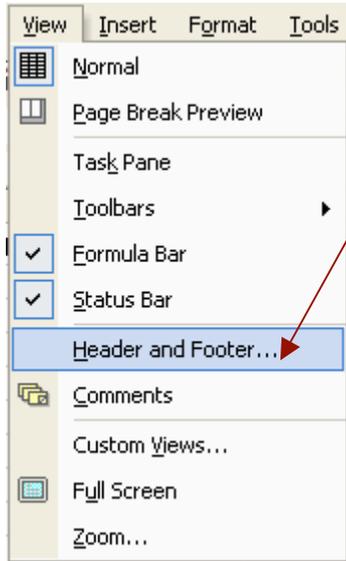
	A	B	C	D	E	F	G	H
1	First Name	Last Name	Exam 1 (%)	Exam 2 (%)	Exam 3 (%)	Exam 4 (%)	Exam 5 (%)	Exam Average
2	Risa	Sackman	90	92	99	96	90	93.4
3	Shobha	Narine	89	90	90	97	89	91
4	Aitken	Thompson	90	98	99	86	99	94.4
5	Seth	Giammanco	89	92	94	87	89	90.2
6	Deborah	Lerman	92	99	99	98	90	95.6
7	Bryna	Cassidy-Griff	90	98	89	92	89	91.6

Now go to the formatting toolbar on the top of the page, click on the **Bold** tool (with the 'B'). All of your column headings should now be bolded.



Basic Microsoft Excel 2002

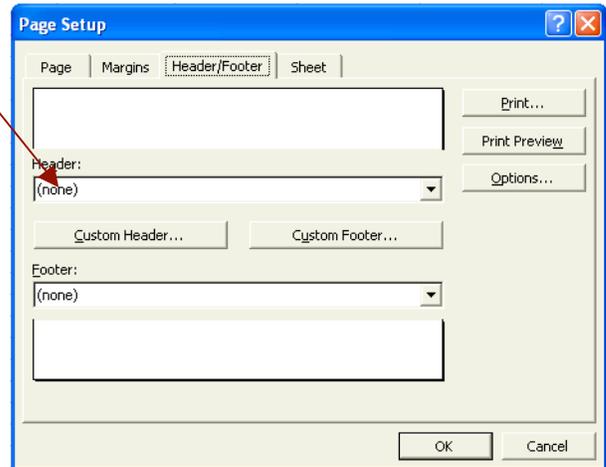
Now change the font size. With the column headings still selected, go to the **Font Size** field. Click on the arrow and a dropdown menu with numbers should be displayed. Choose the number 12. You may need to re-size the columns to fit your headings.



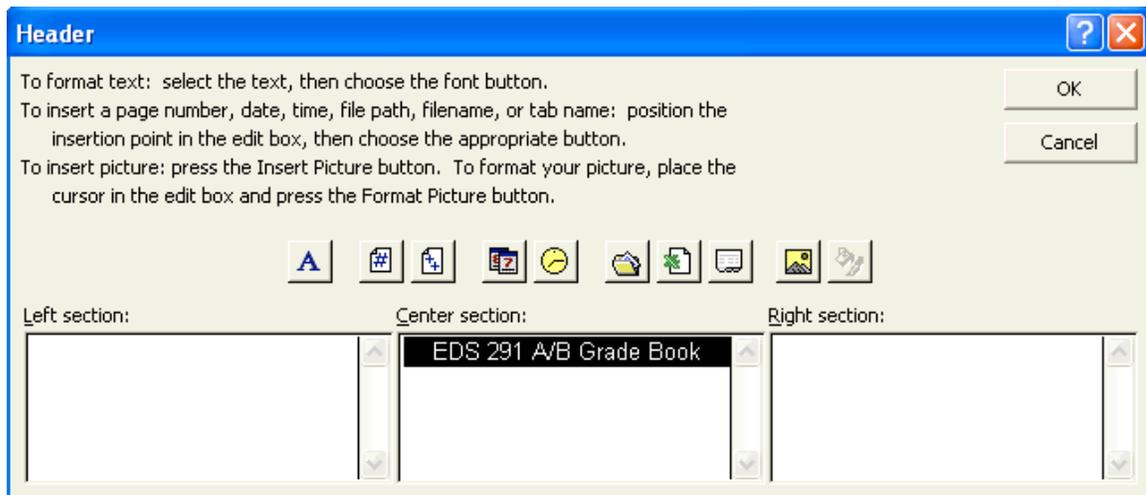
We need a title for this grade book. Go to the **View** menu and click on it. A dropdown menu should appear. With your mouse highlight **Header and Footer** and click on it.

The Page Setup dialog box, as seen below, should appear.

Click on the button **Custom Header**. A box should come up with three sections; click your mouse in the Center section, and you should see the blinking cursor.



Type in the following text: **EDS 291A/B Grade Book**.



Select the text by clicking and holding at the beginning or ending of the line of text and dragging your mouse over the text.

You can format your text by highlighting it and clicking the Font button, which is the button with the capital A on it. Click OK on the Header box and also on the Page Setup box.

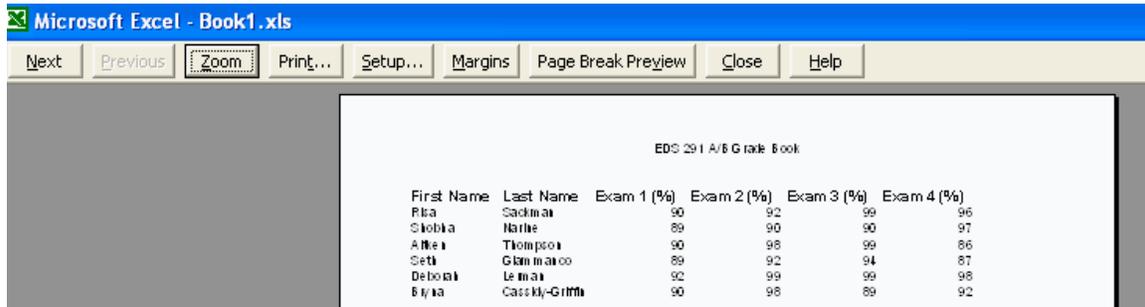
Basic Microsoft Excel 2002

Now let's preview how the grade book will look when it is printed out.

Click on the **Print Preview** button:



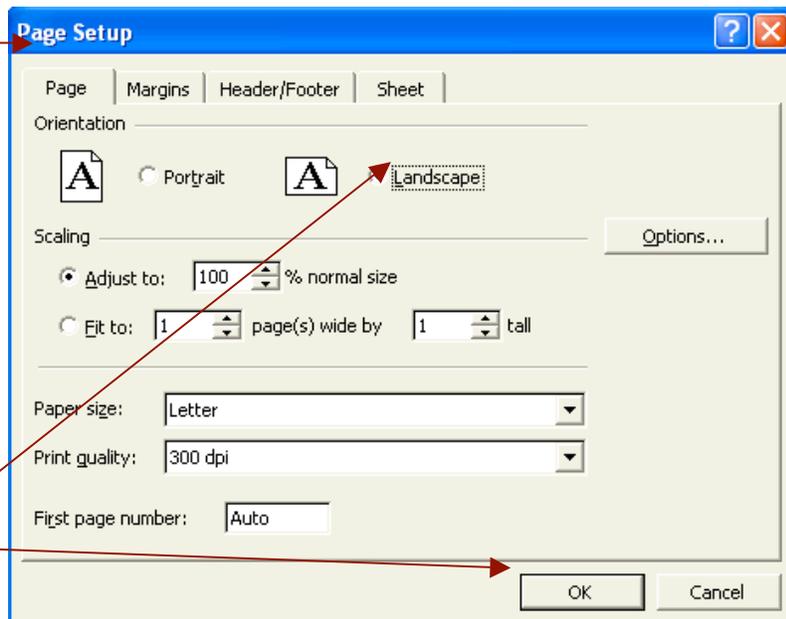
And you will see the image below:



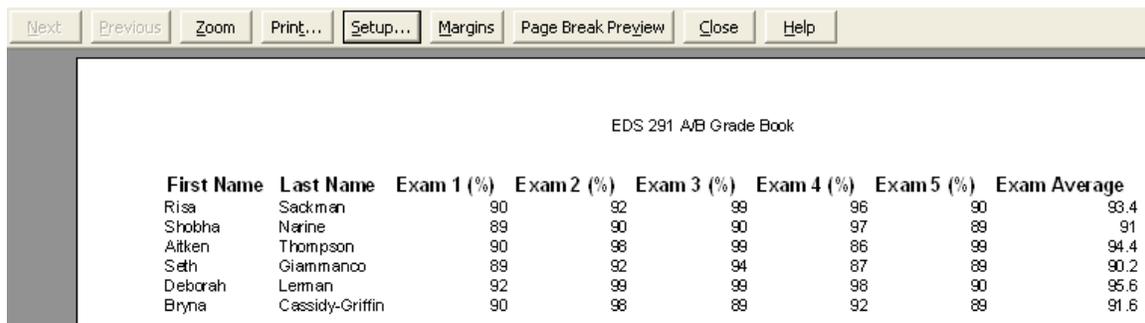
You will notice that the Exam 5 and Exam Average Columns have been cut off.

Here is how we fix it:

Click on the **Setup** button. The following Page Setup dialogue box will appear. Click on the tab that says **Page**. The first section says **Orientation** – click on the radio button next to the word **Landscape**. Then click **OK**.



Now your document should look like this:



Basic Microsoft Excel 2002

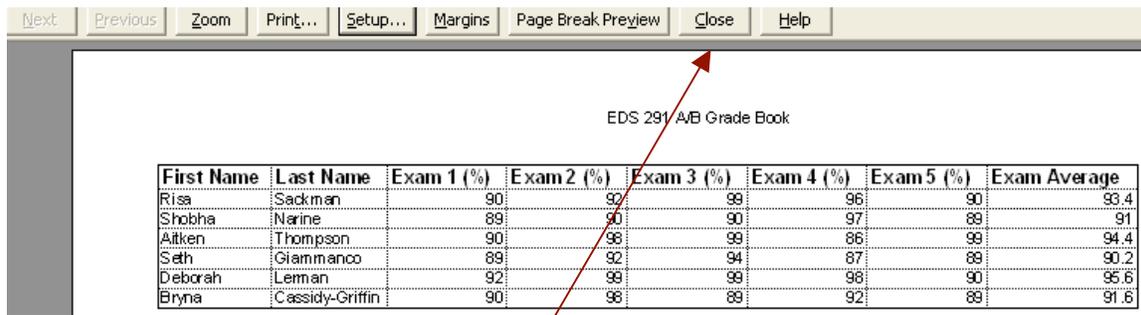
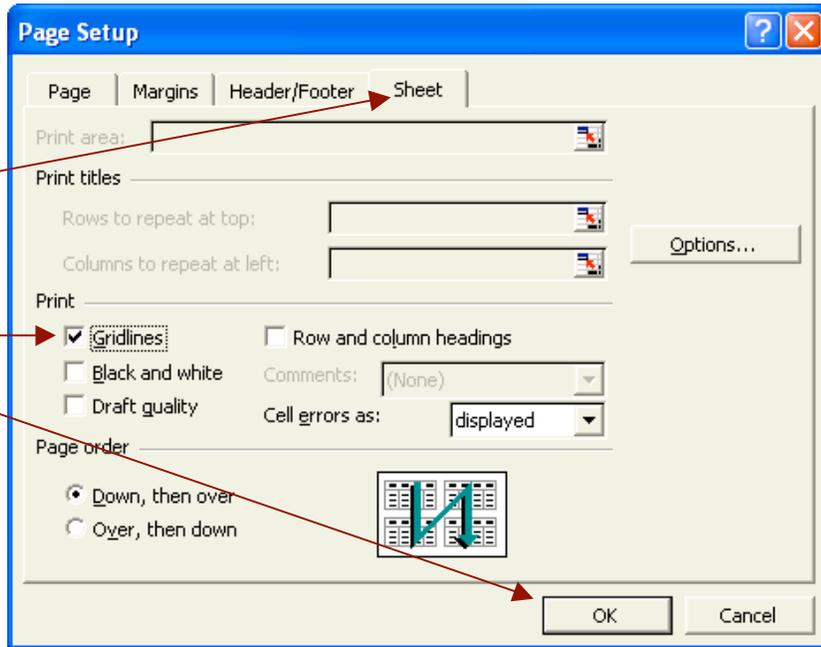
Another aspect of the grade book that we need to fix is to separate the data into a grid.

Stay in **Print Preview** mode, and click on the **Setup** button again.

Click on the tab that says **Sheet**.

Put a check in the box next to the word **Gridlines**.
Click **OK**.

Now your grade book looks perfect!



Close Print Preview by clicking on the **Close** button.

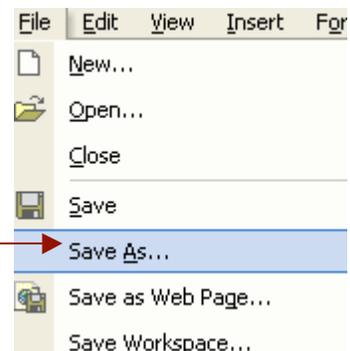
V. Saving a Document

You have a few places where you can save a document. The main choices are:

- To a floppy disk
- To a location on your computer

Saving to a location on your computer

Using your mouse, go to the **File** menu and click once. A drop-down menu should appear. Move your mouse down until the **Save As** option is highlighted.



Basic Microsoft Excel 2002

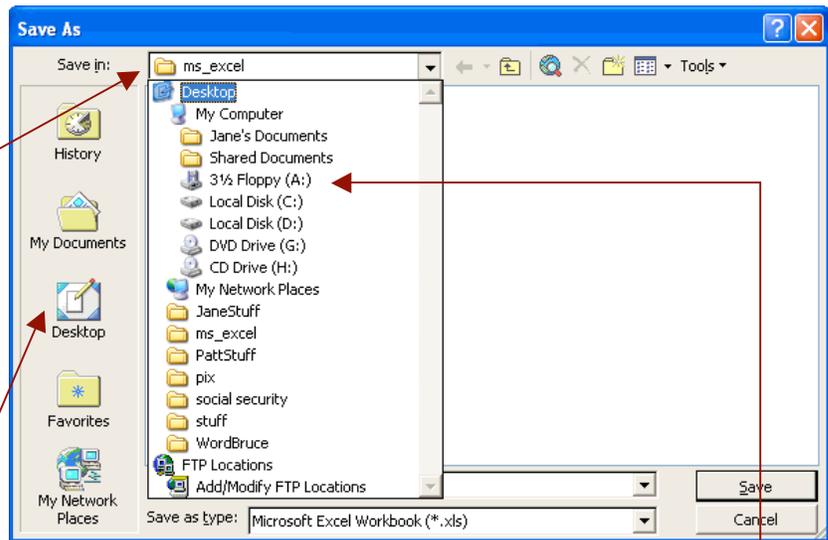
Click on **Save As**.

The **Save As** dialog box will appear.

Click on the down arrow on the **Save In** pull-down menu.

This menu will display a variety of options of where you can save your **Excel** worksheet.

You may also click one of the buttons on the left hand side of the dialog box.



*Note: For new users to Microsoft **Excel**, the easiest location to save to would be the **Desktop**.*

Saving to the floppy drive

Insert your floppy disk into the floppy drive. Go to the **File** menu, and select **Save As**. The **Save As** dialogue box will appear.

You need to specify where you would like to save your document by choosing the floppy disk from the menu located at the top of the **Save As** dialogue box.

Rename your document by typing in the word – **Gradebook2.xls**

Press the **Save** button.

Activity

Let's try a full-blown grade book using the **Excel** spreadsheet program and the skills you have just practiced. We'll use our EDS 291A/B course requirements as the template. Type in the following data:

Basic Microsoft Excel 2002

Note - The first entry under **Name (Antics, Zane E.)** is in cell D10 (Row: 10 Column: D). Use this location as your starting point for this exercise.

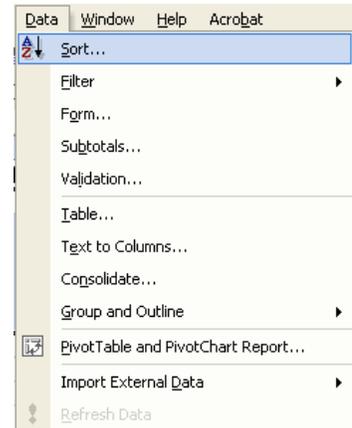
Now, do the following:

1. Under the **TOTAL** heading, create **SUM** formulas for each sample student [example for **Antics, Zane E.** should be =SUM(F10:L10)].
2. Under the **PERC** heading, create % formulas for each sample student (example for **Antics, Zane E.** should be =SUM(M10/300)). In this formula, the "300" represents the total points possible for the class.
3. Under the **ATTEND** heading, enter sample grades for all the students using any numbers between 5 – 30. If you have entered the formulas correctly for **TOTAL** and **PERC**, you should see these numbers change.
4. Under the **NTBK** heading, enter sample grades for all the students using any numbers between 0 – 10. Again, if you have entered the formulas correctly for **TOTAL** and **PERC**, you should see these numbers change.
5. Under the **?GEN** heading, enter sample grades for all the students using any numbers between 30 – 40. **TOTAL** and **PERC** numbers should change.
6. Under the **APPLICATION** heading, enter sample grades for all the students using any numbers between 10 – 30. **TOTAL** and **PERC** numbers should change.
7. Under the **OPTION** heading, enter sample grades for all the students using any numbers between 50 – 100. **TOTAL** and **PERC** numbers should change.
8. Under the **SOFT EVAL** heading, enter sample grades for all the students using any numbers between 20 – 50. **TOTAL** and **PERC** numbers should change.
9. Under the **EXAM** heading, enter sample grades for all the students using any numbers between 20 – 50. **TOTAL** and **PERC** numbers should change.
10. Time to enter formulas for the **EXAM RESULTS**. Enter the SUM formula for **Total Test** in Column-G Row-32. It should be: =SUM(L10:L29). Do the rest of the formulas for **EXAM RESULTS**. Some hints: Maximum formula =MAX, Minimum =MIN, Average =AVG, and Percentage is just the sum total with the Toolbar % selected.
11. Do the same for the **GRAND TOTAL** formulas. A hint: Total is =SUM(M10:M29).
12. Resize Columns and Rows as appropriate.
13. Lastly, create the given grade book borders using either the **Toolbar** Border options (also under **Format** in your Menu) or a **Draw** feature.
14. **Save** the file as **291_Grades.xls**.

Basic Microsoft Excel 2002

For Fun (?)

Sorting your data in your grade book can be very helpful. Highlight your data from cell E10 to M29 by holding down your Mouse click and dragging over all these cells. Under your Menu, select **Data** and then **Sort**.



You will then get a screen looking like the following:

NAME	ID #	ATTEND 30	NTBK *10	?GEN 40	APPLICATS 30	OPTION 100	SOFT EVAL 50	EXAM 50	TOTAL 300
Antics, Zane E.	6928						0	0	0
Arkie, Ann	7428						0	0	0
Bierman, Stan	9866						0	0	0
DeLiver, Stan N.	8472						0	0	0
Duree, Quan	4042						0	0	0
Encruise, Kerry B.	0206						0	0	0
Kwame, Eiffel	8408						0	0	0
Less, Ruth	9459						0	0	0
Locked, Isador	6684						0	0	0
Makit, Willie	3635						0	0	0
Moshion, Dee	9466						0	0	0
Pease, Warren	3502						0	0	0
Pository, Sue	7727						0	0	0
Pryme, Pastor	8125						0	0	0
Ricky, Lucy N.	9700						0	0	0
Rugg, Lilac A.	6471						0	0	0
Sayle, Clarence	2558						0	0	0
Shun, Percy Q.	5154						0	0	0
Tadeth, Boris	9256						0	0	0
Yeough, Yoh	9256						0	0	0

Sort

Sort by **Column F** Ascending Descending

Then by **Column F** Ascending Descending

Then by **Column F** Ascending Descending

My list has Header row No header row

Options... OK Cancel

Under **Sort By**, select **Column F**. Make sure that **No header row** is chosen. Hit **OK**.

Your grade book is now sorted by the **ID#** column. Note that all of the **TOTAL** and **PERC** column numbers changed automatically.

Basic Microsoft Excel 2002

		Fall 2003		EDS 291A/B Sec. 1 MICROCOMPUTERS IN SPECIAL EDUCATION EUREKA HALL #211				Dr. Bruce A. Ostertag Dept. of Special Ed, Rehabilitation, and School Psychology			
FNL GRDS	NAME	ID #	ATTEND 30	NTBK *10	?GEN 40	APPLICATS 30	OPTION 100	SOFT EVAL 50	EXAM 50	TOTAL 300	PERC 0
1	Antics, Zane E.	6928	30	0	40	30	98	50	50	298	99%
2	Arkie, Ann	7428	25	10	40	30	100	50	50	305	102%
3	Bierman, Stan	9866	30	10	38	20	100	50	50	298	99%
4	Deliver, Stan N.	8472	30	0	40	30	95	45	49	289	96%
5	Duree, Quan	4042	30	10	40	30	100	50	50	310	103%
6	Encruise, Kerry B.	0206	20	0	30	20	80	40	45	235	78%
7	Kwame, Eiffel	8408	30	10	38	30	100	48	50	306	102%
8	Less, Ruth	9459	25	10	40	30	100	50	50	305	102%
9	Locked, Isador	6684	30	10	40	30	99	44	50	303	101%
10	Makit, Willie	3635	30	10	40	30	100	50	50	310	103%
11	Moshion, Dee	9466	30	0	40	30	100	48	49	297	99%
12	Pease, Warren	3502	25	0	30	30	100	50	50	285	95%
13	Pository, Sue	7727	30	5	35	20	85	45	50	270	90%
14	Pryme, Pastor	8125	30	10	40	30	100	50	49	309	103%
15	Ricky, Lucy N.	9700	25	10	37	25	96	50	50	293	98%
16	Rugg, Lilac A.	6471	30	0	40	30	100	48	50	298	99%
17	Sayle, Clarence	2558	30	10	40	30	100	50	49	309	103%
18	Shun, Percy Q.	5154	25	10	40	25	89	50	50	289	96%
19	Tadeth, Boris	9256	30	0	40	30	100	45	50	295	98%
20	Yeough, Yoh	9256	30	10	36	30	100	50	50	306	102%
FINAL GRADES		EXAM RESULTS		FINAL GRADES				GRAND TOTAL			
285-300 A 231-242 C+		Total Test 991		285-300 A 231-242 C+				Total 5910			
276-284 A- 222-230 C		Exam Maximum 50		276-284 A- 222-230 C				Maximum 310			
264-275 B+ 210-221 C-		Exam Minimum 50		264-275 B+ 210-221 C-				Minimum 235			
252-263 B 180-209 D		Exam Average 49.55		252-263 B 180-209 D				Average 295.5			
243-251 B- 000-179 F		Exam Percentage 99%		243-251 B- 000-179 F				Percentage 99%			

* Alternative Assignments Contracted

To post grades without names (student privacy), highlight the **NAMES** column and **Edit** this out using the **Delete** function.

You can now publicly post these student grades and maintain confidentiality.

It is **STRONGLY** suggested that you **SAVE AS** this sorted file under a different name (e.g., **291_Grades_sorted.xls**). If you do not do this and hit **Save**, you'll lose all of your student names and have to retype them in.

Closing Excel

To do this, click on the **File** menu and select **Quit**.

Thanks to Jane Tillis for her technical support and invaluable consultation.

