MS Excel 2007 Basics

MS Excel 2007 Basics

- Explanation of key terms in MS Excel
- Navigation of Excel Window and Basic Tools
- Creation of a Workbook
- Workbook Data Entry, Formatting
- Calculations: total, average, simple formula
- Graphs/Charts

Key Terms in MS-Excel

- A spreadsheet (worksheet): a piece of paper in which data can be manipulated by the computer stored in rows and columns.
- A workbook (Excel file) has multiple sheets.
 - Each sheet may have multiple pages.
 - Record and organize information in a row (record)-andcolumn (field) format.
 - Make calculations and simple statistical analyses across a row or a column.
 - Create charts based on the data displayed in a spreadsheet.

Workbook vs Sheets

- A workbook refers to an Excel document. You will sometimes hear it called a "spreadsheet."
- In Default, each workbook has 3 "sheets" associated with it. You can rename these sheets to something more fitting to your purpose(e.g. Fall Term, Summer Term, Spring Term...)
- You can add sheets if you'd like to.
- Your workbook is the ENTIRE file and the file name should reflect the function the file serves.
 - Inventory.xlsx

Excel Workbook Window

- Open the MS-Excel
 - Start-All Programs-Microsoft Office Microsoft Office Excel 2007
 - This creates a new workbook.
- Open an Excel workbook double-click on the practice file named "homeexpense.xlsx"
- Open an Excel workbook in Excel
 - Click on Office Button and select Open.
 - Locate the file via file folders.
 - Double-click on the file.



Excel Window



Microsoft Office Button

•Performs many of the functions that were located in the **File** menu of older (or Excel 2010) versions.

–New, Open, Save, Save As, Print, Send, Close, etc.

•File Format

- -Save As
 - •Excel Workbook, .xlsx

–Smaller size with new Office 2007 features.

- •Excel 97 2003 Workbook
- •Other Formats: web page, .csv

6	↓ → ↓ N
New	Save a copy of the document
Open	Excel Workbook Save the workbook in the default file format.
<u>S</u> ave	Excel Macro-Enabled Workbook Save the workbook in the XML-based and macro-enabled file format.
Save As	Excel Binary Workbook Save the workbook in a binary file format optimized for fast loading and saving.
Print >	Excel <u>9</u> 7-2003 Workbook Save a copy of the workbook that is fully compatible with Excel 97-2003.
Pr <u>e</u> pare →	Adobe PDF
Sen <u>d</u> ►	PDF or XPS Publish a copy of the workbook as a PDF or XPS file.
Publish >	Other Formats
Close	all possible file types.
	Excel Options X Exit Excel

Ribbon



- Each "tab" (such as "Home", "Insert"...) will open a ribbon with several command items each in similar groupings.
- Home: has the common formatting tools, clipboard, fonts, paragraphs, number, Styles, Cells, and Editing.

The Workbook

- The workbook is comprised of:
 - Rows (labeled numerically)
 - Columns (labeled alphabetically)
 - Cells
- A cell is labeled with both a numerical and alphabetical value.
 - Naming convention:
 C3 is active as
 Indicated by the
- Tab Key: navigate cells.



Steps - Creation of a Workbook

- 1. Create a new workbook.
- 2. Save it with a file name.
- 3. Enter data: column headings, row headings, and data.
- 4. Format data: column headings, row headings, and data.
- 5. Save the file.

A New Workbook

- You have a blank workbook when you open Excel.
 - Or click on Office Button and select New.
 - Click on Create button.





Save a Workbook

- Click on Office Button and select Save or Save As.
 - Save: save the workbook as .xlsx. This format is Excel 2007 compatible. It cannot be opened in previous version of Excel unless you have an Office 2007 converter installed.

- Save As:

- Excel Workbook .xlsx
- Excel 97 2003 Workbook .xls
- Other Formats .CSV and others.



Creation of a Workbook

- You should always enter headings to columns and rows to identify what the numbers represent.
- Practice: make a workbook of home expenses.

Items	January	February	March	Total	Average
Clothing					
Grocery					
Gas					
Utilities					
Total					

Data Entry

- Place your mouse in a cell and click once. This will allow you to enter data in that cell.
- To move HORIZONTALLY across cells, hit TAB.
- To move VERTICALLY, hit ENTER.
- Practice:
 - Enter column heading and row heading.
 - Enter data.

Autofill – Fill in Months

AutoFill Enter the months of the year, the days of the week, multiples of 2 or 3, or other data in a series. You type one or more entries, and then extend the series.

• Fill in the months of the year

- Type in the first 2 months.
- Change the cell type to Date type.
 - Select the row of the months by clicking on the row tab such as "1". Go to Format and select Format Cells... (bottom).
 - Select **Date** and click on **OK**.

•Highlight the cells of the two months and drag the bottom right corner to expand the cells with the rest of the months.

	А	В	С	D	
1	Items	January	February		
2			C	Marc	h
2					

		• (°≤ •) ∓			E	Book1 - M	vicrosoft	Excel							х	R R
	Home	Insert P	'age Layout	Formulas	Data	Review	View	Add-Ins	Acrobat				۲		x	S E
Paste Clipboa	k ia V rd R	alibri • B I U •	11 · A A		: 三 参一 : 三 詳 詳 Alignment		Date \$ - % *.00 ->.0 Number	、 。 。	Conditional I Format as Tal Cell Styles * Style	Formatting * ble *	iel iel iel cel	nsert × Delete × Format ×	Σ × A Sort δ	E Finite Sele	d & ect *	
	A1	• (9	<i>f</i> ∞ It	ems							2	Row He	ight		*	
1 te	A	B January	Format Cel	lls Alignment	Font B	order	Fill F	rotection	ľ	?	- **	AutoFit Column AutoFit	Row Height <u>W</u> idth Column Widtl			
4			Category:		-						_	<u>D</u> efault	Width			
5			General	~	Sample -						Visi	bility				
6			Currency									Hide &	<u>U</u> nhide	•		
7			Date		Type:	11					Org	anize She	ets			
8			Time Perceptage		*Wednes	day, March	n 14, 2001			_	_	<u>R</u> ename	Sheet		-11	
9			Fraction		3/14 3/14/01						_	Move or	Copy Sheet		-11	
11			Text		03/14/01 14-Mar						_	Tab Cold	or	•	- =	
12			Special Custom		14-Mar-0	1				×	Pro	tection				
13					Locale (loc	ation):				_	4	Protect !	Sheet			
14					English (U	.5.)				~		Lock Cel	II.			
15											2	Format	C <u>e</u> lls.		-11	
16				~									Datasheet For	nattin	g (Ctrl	+1)
17																Γ
			Date formal begin with a specified for operating sy	ts display da an asterisk (* r the operati ystem settin	te and time se ') respond to (ng system. Fo gs.	rial numbe thanges in rmats with	rs as date v regional da iout an aste	values. Dat te and time erisk are no	e formats that settings that t affected by	t are						
							L	<u></u>								

Types of Data



- You can enter numerical or text data in a cell.
- Enter numbers in cells. You may need to change the cell format to numbers.
 - Highlight number cells in the practice file, go to Format and select Cell Format. Select Number and click on OK.
- If you see ######, you need to expand your column so the data fits.
 - Double click on the line between the two column headings to auto-fit.
 - Drag the border between two columns.
- Change numbers to Currency with \$ sign.
 - Highlight all number cells and click on \$ icon.
- To enter fractions, leave a space between the whole number and the fraction. For example, 1 1/8.
- To enter a fraction only, enter a zero first. For example, 0 1/4. If you enter 1/4 without the zero, Excel will interpret the number as a date, January 4.

Insert a Row/Column

- Insert a row:
 - Select the row you would like to insert above
 - Clicking on the row number tab.
 - In Home tab, go to Insert and select Insert Sheet Rows.

6		.	9 - (2					homeex	(pense.xls	sx - Micro	soft I	Excel					
	9	Hom	e Ir	nsert	Page L	ayout F	ormulas	Data F	Review	View	Add	-Ins A	crobat		_		۲
	A	×	Calibri		* 11	- A A		- 82		Date	-	👪 Cond	itional Form	atting + 🌔	¦a•• Ir	nsert	Σ - Α
	Paste		TD 7			A A				\$ - %	,	📆 Forma	at as Table 🔻		i•∎	Insert C	<u>e</u> lls
	*	V	Β⊥	Ū,						◆.0 .00 ◆.0 ◆.0		📑 Cell S	tyles 🔻		G	Insert SI	et <u>R</u> ows
L	lipboa	rd 🖻		F	ont	5	AI	lignment	<u> </u>	Number	5		Styles][i i	Insert Si	neet <u>C</u> olumn:
		A1		- (0	<i>f</i> ∗ Iter	ns									In <u>s</u> ert Si	neet
1	-	А			В	С	D	E	F	G		Н	1	J	<u> </u>	K	L
	L De	ms		Janua	ry	February	March	April	May	June	J	luly	August	Septem	ber		

- Insert a column:
 - Select the column you would like to insert next to it
 - Clicking on the column letter tab such as L.
 - In Home tab, go to Insert and select Insert Sheet Column.



Change Column Width or Row Height

- Column Width
 - Drag the border between two columns to adjust a column width.
 - Adjust column width for a group of columns
 - Highlight the columns you want to adjust their width.
 - In Home tab, go to Format and select Column Width...
 - Enter a number of characters for column width. Click on OK.
- Row Height
 - Drag the border between two rows to adjust a row width.
 - Adjust row width for a group of rows
 - Highlight the rows you would like to change their height.
 - In Home tab, go to Format and select Row Height.
 - Enter a number of the row height and click on **OK**.
 - One point=.035 cm



Format a Worksheet



- Change the font size, color, and the background of a cell or group of cells.
- Select the cells you'd like to change. Then select a formatting tool.
- To show cell borders, highlight the cells and select a border.

Table Styles and Cell Styles

- Table Styles
 - Highlight the Excel table (all cells), go to Format as Table icon. Select a table style.
- Cell Styles
 - Highlight cells, go to Cell Styles, select a cell style.

Home	Insert Page L	ayout F	ormulas	Data	Review	View A	\dd-Ins	Acrobat								
Paste Clipboard	ainter	• 11 <u>∎</u> • Font	• A		= <mark>=</mark> ≫~ = = € Al	gnment	rap Text erge & Cente	er + S +	% • 5 8 ∔	Col For	ndition I Fo rmatting as T Light	rmat able v Styles v	Number	Conditional Formatting ★	Format as Table	t t t t t t t t t t t t t t
A2	- (9	<i>f</i> ∗ Iter	ms								=====		Good, Bad and I	Neutral		
Α	В	С	D	F	F	G	н			К			Normal	Bad	Good	Ne
1	_		-						-				Data and Model			
2 Items	January	February	March	April	May	June	July	August	Septembe	Octobei	r		Calculation	Check Cell	Explanatory .	In
3 Grocery	2.30							Ŭ					Output	Warning Text		
4 Gas	5.30												Titles and Heading	ngs		
5 Clothing													Heading 1	Heading 2	Heading 3	He
6 Utilities												Table Styl	Themed Cell Styl	les		
7 Total											Medium	Table Styl	20% - Accent1	20% - Accent2	20% - Accent	20
													400/ 4	100/ 1 10	100%	

Excel - Header and Footer

• In Insert tab, click on Header & Footer icon.



• Type in a header in the Header box.

C	9	(°I +)	Ŧ				M	icrosof	t Excel			
9	Home	Insert	Pag	e Layout	Forr	mulas	Data	Re	view	View	Add-In	s Acrok
		#		7								
Heade	r Footer	Page Number	Number of Pages	Current Date	Current Time	File Path	File Name	Sheet Name	Picture	Format Picture	Go to Header	Go to Footer
Header	& Footer			H	eader & F	Footer B	Elements				Navig	ation

- Click on **Go to Footer** icon. Click on **File Name** icon to insert the file name in the Footer box.
- To go back to the Normal view of the spreadsheet, click on **View** tab and select **Normal**.



Conditional Formatting

- Format cells based on a condition
 - Red font for expenses that exceed \$100.
 - Highlight the cells you would like to apply a conditional formatting rule.
 - In Home tab, select Conditional Formatting. Select Highlight Cell Rules and Greater Than.
 - Select a cut point number (100) and a style of text.



Conditional Formatting

- Explore more conditions
 - Top/Bottom Rules: Top 10, Above Average
 - Data columns
 - Formatting Styles
 - Color Scale







Basic Calculating Functions – Total, Average

- Excel has mathematical functions for you to use.
 - Total
 - Click on the Cell that displays a total.
 - In Home tab, click on the sum function icon.
 - Highlight the cells included in the total and hit Enter key.

— Average

- Click on the cell that displays an average.
- In **Home** tab, click on the little down arrow in the sum function icon and select **Average**.
- Highlight the cells included in the average and hit Enter key.



Sum (Alt+=)

		Dis
3		cel
6		
5		
5		
=SUM(<mark>J5:J</mark> 8	3)	



Creating Basic Formula

- You conduct a mathematical calculation in Excel by typing a simple formula into a cell. An Excel formula always begins with an equal sign (=).
- Math operators
 - Addition: +
 - Subtraction:-
 - Multiplication:*
 - Division:/
- Example: Gas + Utilities
 - Click on the cell that displays the expense of Gas and Utilities.
 - Enter =.
 - Click on the Gas cell for January.
 - Enter +.
 - Click on the Utilities cell for January
 - Hit Enter key.

	SUM 🗸 🔍 🗙 🗸	∕ <i>f</i> _x =B4+B6
	А	В
1		
2	Items	January I
3	Grocery	2.30
4	Gas	5.30
5	Clothing	56.80
6	Utilities	56.80
7		
8		
9	Total	
10		
11	Total of Utilities and Gas	=B4+B6
12		

Copy a Formula

- You may copy the same formula onto a series of cells.
 - Example, a total expense in each of all 12 months.
 - Select the total cell for January.
 - Drag the bottom right corner of the cell to expand to the December total cell.
 - The total expense is then calculated for all 12 months.

PracticeTotal for each of the categories

	B9 🔻 🤇)	<i>f</i> ∗ =SUM	(B3:B8)	
	А	В	С	D	
1					Γ
2	Items	January	February	March	A
3	Grocery	2.30	100.00	300.00	
4	Gas	5.30	120.00	230.00	
5	Clothing	56.80	34.70	234.90	
6	Utilities	56.80	90.80	78.40	
7					
8					
9	Total	121. <mark>20</mark>	345.50	843.30	

Merge and Center

- You may want to add a title for an Excel table.
- Insert a row above the column heading row.
- Type the title in the first cell of the title row.
- Highlight the cells you would like to display the table title.
- Click on Merge and Center icon.



Print an Excel Sh

- As default, there are no borders around cells.
- For printing, there are two ways to print boarders around cells.
 - Gridlines: This way adds gridlines around the cells in the table.
 - Click on Page Layout tab.
 - Click on Page Setup group.
 - Click on Sheet tab.
 - Check Gridlines. Click on OK.
 - Add borders: This way adds borders around the cells you selected.
 - Highlight the cells you want to have borders.
 - In **Home** tab, click on the down arrow next to the border icon and select a choice of borders.
 - You have flexibility of selecting a variety of borders.

6				meexpense	.xisx - iviic	roson e
	Home Insert Page Layout	Formulas	Data	Review	View	Add-
	A Fonts Themes Effects Themes	Size Print Area * Page Setup	Breaks I	Background	Print Titles	Width Heigh Scale: Scal
ſ	Page Setup					? 🗙
	Page Margins Header/Footer Shee	t				
1	Print area:					1
	Rows to repeat at top:					
-	Print					
-	Black and white	Cor Cell	oments: errors as:	(None) displayed		*
Ē	Row and column headings					
	Own, then over Oyer, then down					
-		Prin	t	Print Previe <u>v</u>	v Optio	ns
-				ОК		ancel

0												
	Hom	ie	Insert	P	ag	e Layout 🛛 I	Formulas					
Pa	aste	Calib B	ri I <u>U</u> (·	11	• A A						
Clip	board 🖻			Fc B	or	ders						
	A2		•	(E		B <u>o</u> ttom Bord	er					
		А				To <u>p</u> Border						
				B		<u>L</u> eft Border						
1	Family	Exp	enses		-	<u>R</u> ight Border						
2	Items			Ji 🖞		No Border						
3	Grocery				R	All Borders						
4	Gas					Curiside Borr	lers					
5	Clothing					Thisk Day D						
6	Utilities					INICK BOX BO	rder					

Page Layout

- Orientation
 - The vertical dotted line specifies the right border of a page in a spreadsheet.
 - You may change the page orientation from Portrait to Landscape. Go to Page Layout tab, click on the Orientation icon and select Landscape.
 - You may adjust the width of columns to fit the columns into a page.
 - Double click on the border between the titles of two columns to automatically adjust the column width.
 - Drag the border between the titles of two columns to adjust the column width.
- Margins
 - To adjust the margins of a page, in Page Layout tab, click on Margins icon and select Custom Margins. Change margins and click on OK.
- Sheet Name
 - To give a name of a sheet, double-click on the sheet tab and enter the name.



Page Layout

ns Orientation

Page Setup			? 🛛
Page Margins	Header/Footer	Sheet	
		<u>I</u> op:	Header:
	Left:		<u>Right:</u> 0.25 ♀
Center on page		Bottom:	Eooter:
Horizontally			
		Print	Print Preview Options
			OK Cancel

Column and Pie Chart

• A column chart to show monthly expenses.

• A column chart to show the comparison of expenses in selected months.

• A pie chart to see the percentage/amount of each expense category.







Column Chart - Monthly Expense

- Highlight the expenses with the headings of 12 months.
- Click on Insert tab.
- Click on the arrow in **Columns** icon in **Charts** group.
- Select a column chart.
- To enter a title for the chart, choose a chart layout in **Chart Layouts** group. click on the Title Box and type a title.
- You may change a layout or a style of the chart by selecting a style or a layout.



								¢		
_	Home	Insert	Page Layout	Formula	s Data R	eview Viev	w Ad			Family Expense
Piv	otTable Table	Picture (Clip Shapes Sm Art	artArt		Pie Bar	Area Sc	14(120 10(8(00.00 - 00.00 - 00.00 - 00.00 -	Chart Area
	A2	- ()	<i>f</i> _≭ It	ems				60	00.00	
	А		В	С				20	00.00 · 00.00 ·	
1					3-D Column			-	0.00 ·	
2	Items		January	Februa			aal	-		ard and cit on the new und use we we new met
3	Utilities		56.80	9			A A I		an	it etilt Not At A. D. J. Aug tent oto yent cent
4	Grocery		2.30	10						Y Ser No De
5	Gas		5.30	12	Cylinder					
6	Clothing		56.80	3						Utilities Grocery Gas Clothing

Column Chart - Expense Comparison

- Display expense comparisons among January, March, and June.
- Four columns: Items, January, March, and June. Use "ctrl" key to select multiple columns.
- Go to **Insert** tab and select a column chart under **Column** chart icon.
- Click on Switch Row/Column icon to change the comparison: comparison among months' categories.





Pie Chart - Expense Distribution

- Highlight the Items column and the Total Expense Column (ctrl).
- Go to **Insert** tab.
- Select a **Pie** chart in **Pie** icon.
- To show a percentage, click on the first icon in **Chart Layouts** group.







Pie Chart - Format

- To add a title for the pie chart, choose a layout with a title box, click on the title box, and type the title.
- Add background for the chart: Right-click on the chart and select **Format Chart Area**....
 - Select a Fill style, border color, border style, etc. Click on **Close**.



Format Chart A	rea	? 🛛
Fill Border Color Border Styles Shadow 3-D Format	Fill No fill Solid fill Gradient fill Picture or texture fill Automatic Preset colors: Type: Linear Direction: Angle: 90° Gradient stops Stop 1 ♥ Add Stop position: Color: Transparency: Rotate with shape	Remo⊻e 0% ♥
		Close

Key Steps in Charting

- Create the columns/rows that have the data you need to draw a chart.
- Select the columns/rows needed.
 - Hold "ctrl" key to select non-continuous columns.
 - Hold "shift" key to select continuous columns.
- Select a chart type in **Insert** tab.
- Enter Chart title.
- Select a style of a chart.