# **Introduction to Computer Applications**

**CISY 1225** 

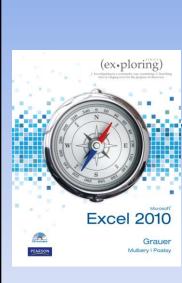
Zahoor Khan, Ph.D.

Last updated: May 2014

#### CISY 1225 Custom book

Chapter 5
Introduction to Excel

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# Exploring Microsoft Office Excel 2010

by Robert Grauer, Keith Mulbery, and Mary Anne Poatsy

Chapter 1
Introduction to Excel

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#### **Objectives**

- Plan for effective workbook and worksheet design
- Explore the Excel Window
- Enter and edit cell data
- Use AutoFill
- Display cell formulas
- Manage worksheets

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#### Objectives (continued)

- Manage columns and rows
- Select, move, copy and paste
- Apply alignment and font options
- Apply number formats
- Select page setup options
- Print a workbook

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#### Introduction to Spreadsheets

- Spreadsheet
  - An electronic file used to organize related data and perform calculations
- Excel
  - A computerized spreadsheet application
- If data is altered
  - formulas automatically recalculate results



#### Worksheets and Workbooks

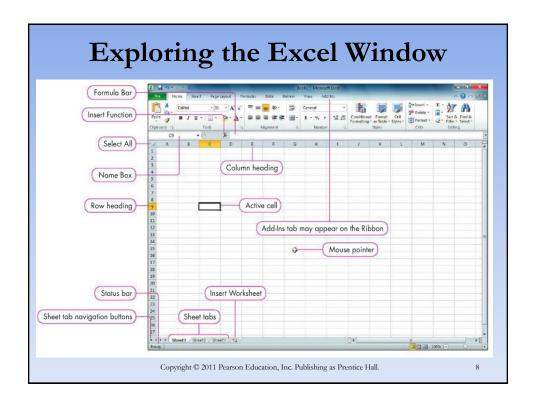
#### Worksheet

 A spreadsheet that contains formulas, values, text, and visual aids

#### Workbook

- A file containing related worksheets

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#### **Planning Structure of Worksheets**

- 1. State the **purpose** of the worksheet
- 2. Decide what input values are needed
  - An **input area** is a range of cells containing values
- 3. Decide what outputs are needed
  - An output area is a range of cells containing results
- 4. Assign the worksheet inputs and results
  - Use rows and columns

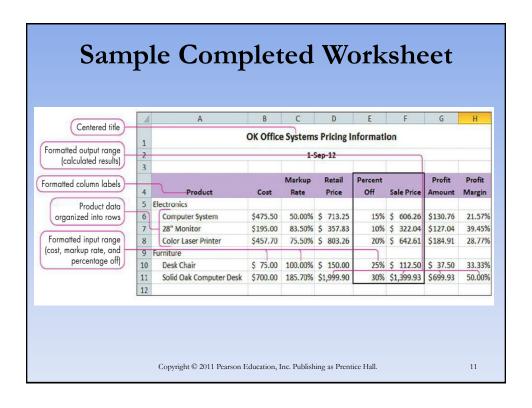
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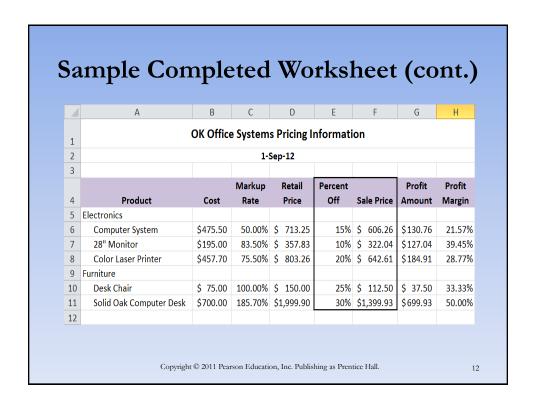
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#### Planning Structure of Worksheets

- 5. Enter the labels, values, and formulas
- 6. Format the numerical values
- 7. Format the descriptive titles and labels
- 8. Document the worksheet
- **9. Save** the completed workbook

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#### **Exploring the Excel Window**

- Worksheet rows
  - lie horizontally
  - Numbered (1, 2, ....)
  - 1 to 1,048,576
- Worksheet columns
  - lie vertically
  - Lettered (A, B, ....)
- A **cell** is the intersection of a row and column
- A cell address or cell reference names a cell

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#### **Navigating Worksheets**

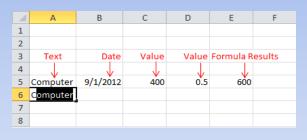
Keystroke	Used To
<b>↑</b>	Move up one cell in the same column.
<b>\</b>	Move down one cell in the same column.
<b>←</b>	Move left one cell in the same row.
$\rightarrow$	Move right one cell in the same row.
Tab	Move right one cell in the same row.
Home	Move the active cell to column A of the current row.
Ctrl+Home	Make cell A1 the active cell.
Ctrl+End	Make the rightmost, lowermost active cell of the worksheet the active cell.

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#### **Entering and Editing Cell Data**

• Excel supports text, values, dates, and formula results



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#### **Entering Text**

- Combination of letters, numbers, symbols, and spaces
- Not used in calculations

	Α	В	С	D				
1	Potential Rebate							
2								
		Rebate	Amount	Rebate				
3	Category	Rate	Spent	Amount				
4	Gasoline							
5	Restaurants							
6	Travel							
7	Everything Else							
8	Totals							

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# **Entering Values**

	Α	A B C					
1	Potential Rebate						
2							
		Rebate	Amount	Rebate			
3	Category	Rate	Spent	Amount			
4	Gasoline	3%	\$ 1,575.80				
5	Restaurants	3%	\$ 1,054.75				
6	Travel	2%	\$ 450.95				
7	Everything Else	1%	\$ 2,584.32				
8	Totals						

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# **Entering Formulas**

- Formulas
  - Combinations of cell addresses, math operators, values and/or functions
- A formula begins with the equal sign =
  - Examples:
    - =A1+A2
    - =C2\*5

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# **Entering Formulas**

- Cell D4 contains formula =B4\*C4
- Cell C8 contains formula =C4+C5+C6+C7

	Α	В	С	D					
1	P	Potential Rebate							
2									
		Rebate	Amount	Rebate					
3	Category	Rate	Spent	Amount					
4	Gasoline	3%	\$ 1,575.80	\$ 47.27					
5	Restaurants	3%	\$ 1,054.75	\$ 31.64					
6	Travel	2%	\$ 450.95	\$ 9.02					
7	Everything Else	1%	\$ 2,584.32	\$ 25.84					
8	Totals		\$ 5,665.82	\$ 113.78					

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#### **Editing Cell Content**

Select Cell	Double-click Cell	Select Cell
1. Click in the Formula Bar.	1. Make edits directly in the cell.	1. Press F2.
2. Make changes in the Formula Bar.	2. Press Enter.	2. Make changes in the cell.
3. Click Enter on the left side of the Formula Bar.		3. Press Enter.

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#### **Mathematical Symbols**

Operation	Common Symbol	Symbol in Excel
Addition	+	+
Subtraction	-	-
Multiplication	X	*
Division	÷	/
Exponentiation	۸	۸

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#### Cell References in Formulas

- It is best to use cell addresses in formulas versus actual data
  - If cell A1 contains value 5 and you need to add B1 to this value, use =A1+B1 versus =5+B1
- If the data changes, Excel will recalculate the result

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#### Order of Precedence

- Order of precedence (operations) controls the sequence in which math operators are computed
  - Brackets (Parentheses)
  - Exponentiation
  - Division and Multiplication
  - Addition and Subtraction
- BEDMAS

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#### Order of Precedence

	Α	В	С	D
1	10			
2	5			
3	2			
4	4			
5				
6	Result		Formula	Explanation
7	20		=A1+A2*A3	5 x 2 = 10. The product 10 is then added to 10 stored in cell A1.
8	30		=(A1+A2)*A3	10 + 5 = 15. The sum of 15 is then multiplied by 2 stored in cell A3.
9	24		=A1+A2*A3+A4	5 x 2 = 10. 10 + 10 + 4 = 24.
10	90		=(A1+A2)*(A3+A4)	10 + 5 = 15; 2+4 = 6. 15 x 6 = 90.
11	10		=A1/A2+A3*A4	10 / 5 = 2; 2 x 4 = 8; 2 + 8 = 10.
12	5.71429		=A1/(A2+A3)*A4	5 + 2 = 7. 10 / 7 = 1.428571429. 1.42857149 * 4 = 5.714285714

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#### **Using Auto Fill**

- Auto Fill enables you to copy the contents of a cell or cell range or to continue a series using the fill handle
  - Example: Month names Jan, Feb, Mar form a series
- The **fill handle** is the small black square in the bottom right corner of a cell

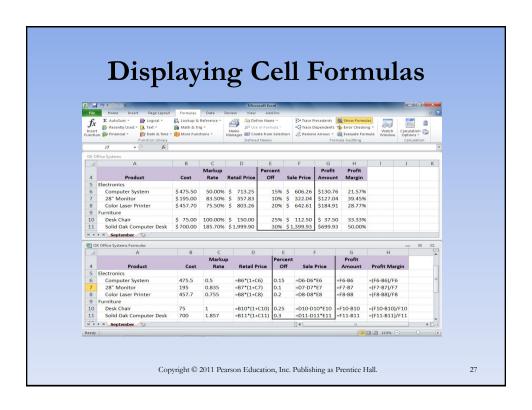
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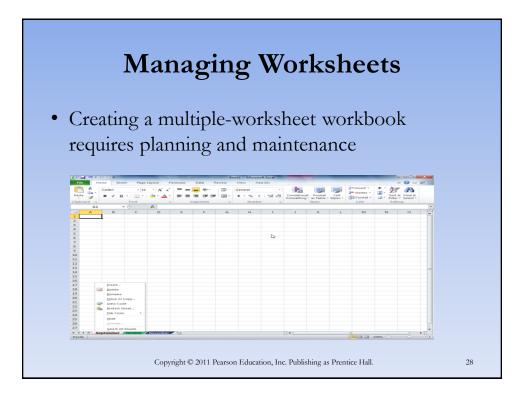
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#### Displaying Cell Formulas

- The result of a formula appears in a cell
  - The formula itself appears in the Formula bar
- Click on "Formulas Menu-> Show Formulas"

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# **Organizing Worksheets**

• The **Home Menu** -> **Format option** presents sheet commands

AutoFit Row Height

Column Width...

AutoFit Column Width...

Default Width...

Visibility

Hide & Unhide

Organize Sheets

Rename Sheet

Move or Copy Sheet...

Jab Color

Protection

Protect Sheet...

Lock Cell

Format Cells...

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#### Moving or Copying Worksheets

- Moving a worksheet
  - changes its order among sheet tabs
- Copying a worksheet
  - makes a duplicate sheet at the new location

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# **Inserting Rows and Columns**

- Insert command offers
  - several techniques to insert rows, columns, and cells



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# **Deleting Rows and Columns**

- Delete command offers
  - several techniques to remove rows, columns, and cells



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#### **Adjusting Column Width**

- · Column width
  - the horizontal measurement of a column

	E8 Width: 11.86 (88 pixels)													
- 4	1 A	++	В	С		D		Е		F		G		Н
1	OK Office	Systems	Pricir	ng Infor	mat	ion								
2	1-Sep-12													
3														
4	Product	Cost	Ma	rkup Ra	Reta	ail Pric	Per	ent O	Sale	Price	Pro	fit Mar	gin	
5	Computer	475	.5	0.5	7	713.25		0.15	60	5.2625	0.2	215686		
6	Color Lase	457	.7	0.755	803	3.2635		0.2	643	2.6108	0.2	287749		
7	Filing Cab	68.	75	0.905	130	.9688		0.05	124	4.4203	0.4	147437		
8	Desk Chai		75	1		150		0.25	Į .	112.5	0.3	33333		
9	Solid Oak	70	00	1.857	1	1999.9		0.3	1	399.93	0.4	199975		
10	28" Monit	19	95	0.835	35	7.825		0.1	32	2.0425	0.	.39449		
1:	L													
13	2													

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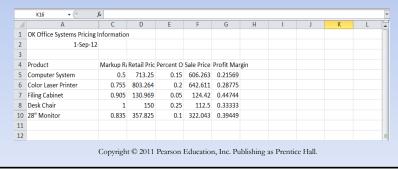
#### Adjusting Row Height

- Row height the vertical measurement of a row
  - The row height is automatically adjusted with a font size increase
  - Using ALT+Enter to create multiple lines may require a row height adjustment
  - Select Row Height from the Format menu

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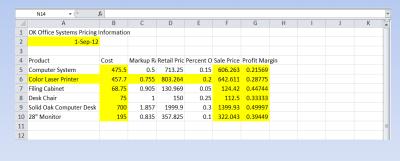
#### **Hiding Columns and Rows**

- **Hiding** a column or row
  - prevents it from displaying and printing
- Unhiding a column or row
  - returns it to view



#### Selecting a Cell Range

- A range is a rectangular group of cells
- A **nonadjacent range** contains a group of ranges that are not next to each other



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#### Moving/Copying a Range

- Moving/copying a range preserves text and values, but cell addresses in formulas will be altered in the pasted location
  - Move a range by cutting it and pasting to the upper left corner of the destination
  - Copy a range can by copying it and pasting to the upper left corner of the destination

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#### **Using Paste Special**

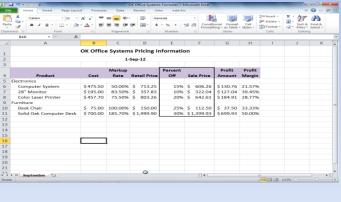
• The **Paste Special** command is used to paste data from the clipboard using a different format



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#### **Formatting**

• Formatting accentuates and draws attention to meaningful portions of a worksheet



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#### **Numeric Formats**

Format Style	Display
General	A number as it was originally entered.
Number	A number with or without the 1,000 separator
Currency	A number with the 1,000 separator and with an optional dollar sign to the immediate left.
Accounting	A number with the 1,000 separator and with an optional dollar sign at the left cell border.
Date	The date in different ways, such as March 14, 2012 or 3/14/12.
Time	The time in different ways, such as 10:50 PM or 22:50 (24-hour time).

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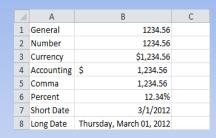
#### Numeric Formats (continued)

Format Style	Display
Percentage	A value as it would be multiplied by 100 with the percent sign.
Fraction	A number as a fraction; appropriate when there is no exact decimal equivalent.
Scientific	A number as a decimal fraction followed by a whole number exponent of 10.
Text	The data left-aligned; is useful for numerical values that have leading zeros and should be treated as text.
Special	A number with editing characters, such as hyphens.
Custom	Predefined customized number formats or special symbols to create your own format.

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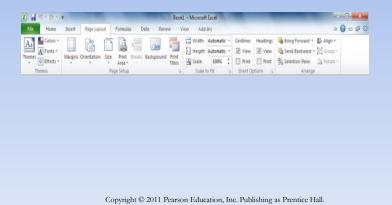
# Numeric Formats (continued)



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#### Using Page Setup

• The Page Setup Dialog Box Launcher contains many common print-related options



#### **Headers and Footers**

- Header
  - Content appearing at the top of each printed page
- Footer
  - Content appearing at the bottom of each printed page
- Page Layout Menu -> In Print titles -> select Header/Footer/ create a custom Header with info.

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#### Summary

- In this chapter, you have learned to enter cell data and create simple formulas with math operators.
- You can now manage a worksheet by manipulating rows, columns, and cells.
- You have learned basic formatting techniques to add visual appeal to text and numbers.

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#### **MyITLab**

- Student's responsibility
  - Registration
  - Access code + Course ID
  - Never share your user name and password
  - Must submit all class/homework via MyITLab

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#### **MyITLab**

- All computer exams will be on MyITLab
- Today: 5 exercises of Chapter 5
  - Start it now and do as you can in class
  - Continue all remaining work in next class
- Projects 5-1 and 5-2

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