Microsoft Excel 2010

Tutorial 1: Getting Started with Excel

A Guide to this Instructor's Manual:

We have designed this Instructor's Manual to supplement and enhance your teaching experience through classroom activities and a cohesive chapter summary.

This document is organized chronologically, using the same heading in **blue** that you see in the textbook. Under each heading you will find (in order): Lecture Notes that summarize the section, Figures and Boxes found in the section (if any), Teacher Tips, Classroom Activities, and Lab Activities. Pay special attention to teaching tips, and activities geared towards quizzing your students, enhancing their critical thinking skills, and encouraging experimentation within the software.

In addition to this Instructor's Manual, our Instructor's Resources CD also contains PowerPoint Presentations, Test Banks, and other supplements to aid in your teaching experience.

For your students:

Our latest online feature, CourseCasts, is a library of weekly podcasts designed to keep your students up to date with the latest in technology news. Direct your students to http://coursecasts.course.com, where they can download the most recent CourseCast onto their mp3 player. Ken Baldauf, host of CourseCasts, is a faculty member of the Florida State University Computer Science Department where he is responsible for teaching technology classes to thousands of FSU students each year. Ken is an expert in the latest technology and sorts through and aggregates the most pertinent news and information for CourseCasts so your students can spend their time enjoying technology, rather than trying to figure it out. Open or close your lecture with a discussion based on the latest CourseCast.

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Chapter Objectives

Students will have mastered the material in this tutorial when they can:

- Understand the use of spreadsheets and Excel
- Learn the parts of the Excel window
- Scroll through a worksheet and navigate between worksheets
- Create and save a workbook file
- Enter text, numbers, and dates into a worksheet
- Resize, insert, and remove columns and rows
- Select and move cell ranges
- Insert formulas and functions
- Insert, delete, move, and rename worksheets
- Work with editing tools
- Preview and print a workbook

EX 4 Introducing Excel

LECTURE NOTES

- Introduce the terminology associated with spreadsheets and Excel
- Show the parts of the Excel window
- Explain how to navigate between worksheets
- Explain how to navigate through the worksheet
-

FIGURES

- Figure 1-1, Figure 1-2, Figure 1-3

TEACHER TIP

This first section will familiarize students with the basic parts of Excel and show them a very simple worksheet. Suggest that they think of each worksheet as a large sheet of paper. Just as a book is comprised of sheets of paper, so too, is an Excel workbook comprised of worksheets. Because all sorts of calculations can be made in the Excel spreadsheet, it is much more flexible than a paper spreadsheet.

Have students familiarize themselves with the names of all the parts of the Excel window. These names will be used over and over again throughout the text, so their understanding of key terms such as these as they read the text will help them to build their knowledge and execute assignments with ease.

CLASSROOM ACTIVITIES

1. Group Activity: Divide students into groups of two or three. Have each group consider the sample spreadsheet in Figure 1-1. Have the groups discuss how What-if analysis could be used in the Cash Flow comparison worksheet. Ask students to determine how What-if analysis could help this company reach an even higher Net cash flow in the next month. After about five minutes have the groups share with the class what they discussed.

2. Quick Quiz:

- A _____ is a collection of text and numbers laid out in a rectangular grid. (Answer: spreadsheet)
- In spreadsheet terms, a(n) _____ contains an Excel chart that provides a visual representation of spreadsheet data. (Answer: B)
    A. worksheet
    B. chart sheet
    C. cell
    D. active cell

EX 8 Planning a Workbook

LECTURE NOTES

- Review planning analysis questions

BOXES

- ProSkills: Written Communication: Creating Effective Workbooks (EX 8)

TEACHER TIP

Be sure to cover the planning process. Students often want to skip the whole planning process. Be sure to emphasize its importance and the fact that it will actually save them time in the long run.

CLASSROOM ACTIVITIES

1. Class Discussion: Brainstorm with the students to think of examples where a workbook would be beneficial (for example, to keep track of income for a fund drive for their club).
2. Group Activity: Divide the class into groups. Ask each group to go over the planning and analysis of one of the above examples and prepare a list of questions that need to be answered with the workbook. The list of questions presented on page EX 8 can serve as a guide. After several minutes, have the groups share their findings with the rest of the class.

EX 9 Entering Text, Numbers, and Dates

LECTURE NOTES

- Show how to enter text into cells
- Show how to enter multiple lines of text within a cell
- Show how to enter dates and numbers into cells

BOXES

- InSight: International Date Formats (EX 13)

FIGURES

- Figure 1-4, Figure 1-5, Figure 1-6, Figure 1-7, Figure 1-8, Figure 1-9

TEACHER TIP

Cover the three basic general categories for data: text, numbers, and dates and times. Text data is a combination of letters, numbers, and some symbols that form words and sentences. Number data is any numerical value that can be used in a mathematical calculation. Date and time data are commonly recognized formats for date and time values. By default, text is left-aligned in cells, whereas numbers, dates, and times are right-aligned.

When you enter multiple lines of text within a cell, Excel automatically turns on the Wrap Text alignment option. This may be confusing to new Excel users. You can point out the Wrap Text button in the Alignment group of the Home tab, showing that it becomes selected when text is entered on multiple lines. If a user clicks the Wrap Text button, deselecting the Wrap Text feature, the text will once again appear on a single line.

Excel will automatically change some dates into a default date format. For example, if your students enter the date "June 4, 2009" Excel will change the date to "4-June-09." If you enter the date using a two-digit year value such as "6/4/09" Excel will change the date to "6/4/2009." Excel refers to these date formats as short dates. Your students can control the automatic reformatting of short dates by changing Windows Regional Settings.

CLASSROOM ACTIVITIES

1. Creative Thinking Activity: How should Excel categorize telephone numbers, as text, numbers or dates and times? Why? (Answer: Text. Because they have characters in them (dashes) and cannot be used in calculations.) How should Excel identify social security numbers? Why? (Answer: Text. Because they have other characters in them (like a dash or parentheses) and cannot be used in calculations.) How should Excel categorize dates like April 15, 2013? Why? (Answer: Date and Time. Excel interprets the cell entry "April 15, 2013" as a date and not as text because of the format.)
2. Quick Quiz:
   - _____ is any numerical value that can be used in a mathematical calculation. (Answer: Number data)
   - To enter additional lines in a cell, press the _____. (Answer: Alt+Enter keys)

LAB ACTIVITIES

Walk students through entering some sample values into cells and then have them try their hand at entering telephone numbers, social security numbers, and dates. Have them experiment with different characters (like parentheses) to see how Excel treats this type of data.

EX 15 Working with Columns and Rows

LECTURE NOTES

- Demonstrate how to set the column width and row height
- Demonstrate how to insert and remove columns and rows

BOXES

-
- Reference Window: Changing the Column Width or Row Height (EX 15)
- InSight: Setting Column Widths (EX 16)
- Reference Window: Inserting a Column or Row (EX 19)

FIGURES

- Figure 1-10, Figure 1-11, Figure 1-12, Figure 1-13

CLASSROOM ACTIVITIES

1. Class Discussion: To insert a column or row in Excel, what are the steps to follow? (Answer: Select the column(s) or row(s) where you want to insert the new column(s) or row(s); Excel will insert the same number of columns or rows as you select. In the Cells group on the Home tab, click the Insert button (or right-click a column or row heading or selected column and row headings), and then click Insert on the shortcut menu.)
2. Quick Quiz:
   - A _____ is a single point on a computer monitor or printout. (Answer: pixel)
   - What is the default column width? (Answer: 8.43 standard-sized characters—about 8 or 9 characters)
   - True/False: If you increase the font size of characters, you can fit more text within a given cell. (Answer: False)

EX 24 Working with Cells and Ranges

LECTURE NOTES

- Demonstrate how to select a range
- Demonstrate how to move and copy a range
- Demonstrate how to insert and delete a range

BOXES

- Reference Window: Selecting Ranges (EX 24)
- Reference Window: Moving or Copying a Cell or Range (EX 26)
- Reference Window: Inserting or Deleting a Range (EX 29)

FIGURES

- Figure 1-14, Figure 1-15, Figure 1-16, Figure 1-17, Figure 1-18

TEACHER TIP

Working with ranges is an important feature because it allows users to select groups of cells and manipulate them within the worksheet or copy them to other areas, even to other applications such as Word or Outlook.

CLASSROOM ACTIVITIES

1. Quick Quiz:
   - To select adjacent ranges, hold down the _____ key and then select the range. (Answer: B)
     A. Home
     B. Shift
     C. Alternate
     D. Control
   - True/False: To deselect a range, click in the selected range again. (Answer: False)
2. Class Discussion:

   Discuss the technique used to drag and drop a cell or range. (Answer: The drag and drop technique allows you to drag the range and drop it in a new location. Select the cell or range, position the mouse pointer over the bottom border of the selection, and then drag the selection to a new location. You can also use the drag-and-drop technique to copy cells by pressing the Ctrl key as you drag the selected range to its new location. A copy of the original range is placed in the new location without removing the original range from the worksheet.)

LAB ACTIVITIES

Have students practice selecting both adjacent and nonadjacent ranges. Have students practice inserting and deleting ranges.

EX 30 Working with Formulas

LECTURE NOTES

- Demonstrate how to enter a formula
- Demonstrate how to copy and paste a formula

BOXES

- Reference Window: Inserting a Formula (EX 31)

FIGURES

- Figure 1-19, Figure 1-20, Figure 1-21, Figure 1-22

TEACHER TIP

Stress to students that a formula always needs to begin with an = sign.

Cover the operations and their operators listed in Figure 1-19. This figure describes the operation and provides an example of each one. It is very important that students understand the kinds of operations used in worksheets. In addition, the Order of Precedence is very important. Students should understand that if they do not follow the rules of the Order of Precedence, they could receive unexpected results. Figure 1-20 will help you explain these concepts.

Excel contains a wealth of keyboard shortcuts designed to work with formulas. Here are a few:

- In a highlighted row, select all the cells that do not match the formula in the active cell (CTRL + \)
- In a highlighted column, select all the cells that do not match the formula in the active cell (CTRL + SHIFT + \)
- Select all of the cells directly referenced by the formula in the active cell (CTRL+[ )
- Select all cells directly or indirectly referenced by formulas in the active cell (CTRL + SHIFT + {)
- Select cells that contain formulas that directly reference the active cell (CTRL +])
- Select cells that contain formulas that directly or indirectly reference the active cell (CTRL + SHIFT + })

Using these keyboard shortcuts is an effective way of displaying the relationship between a formula and the cell it references.

One way of displaying the relationship between a cell reference in a formula and the cell's value is to select the reference in the formula bar and press the F9 key. Excel will replace the cell reference with the cell's value.

CLASSROOM ACTIVITIES

1. Quick Quiz:
   - In the Order of Precedence rules, Excel first calculates the value of any operation within parentheses, then it applies _____. (Answer: A)
     A. exponentiation
     B. addition
     C. multiplication and division
     D. subtraction
   - A(n) _____ is a mathematical expression that calculates a value. (Answer: formula)
   - True/False: A worksheet can contain the following type of data: text, numeric values, dates, and calculated values. (Answer: True)
2. Creative Thinking Activity:
   - If you forget to put an = sign at the beginning of a formula, what will appear in the cell? (Answer: The actual data you entered, not the calculation)
   - How can you correct the problem without re-keying the formula? (Answer: Press F2 (to edit the cell); press the Home key (to move the insertion point to the beginning of the cell); press the Equal sign; and press Enter)

EX 34 Introducing Functions

LECTURE NOTES

- Demonstrate how to enter a function
- Demonstrate how to enter functions with the Autosum Feature

BOXES

- InSight: How AutoSum Works (EX 36)
- ProSkills: Problem Solving: Writing Effective Formulas (EX 37)

FIGURE

- Figure 1-23, Figure 1-24

TEACHER TIP

Discuss that a function is a predefined, or built-in, formula for a commonly used calculation. Each Excel function has a name and syntax. The syntax specifies the order in which you must enter the different parts of the function and the location in which you must insert commas, parentheses, and other punctuation.

The AutoSum feature allows you to quickly enter a sum in a cell. Explain that the SUM function is the most widely used function and the AutoSum allows you to automate the process. Explain that when you choose the AutoSum feature, Excel will "guess" which cells should be included in the sum. Caution students to check the AutoSum range to make sure it is really what they want.

Your students can use the AutoSum button to insert any function into the active cell. To select a function, click the AutoSum button and then click More Functions and choose the function from the Insert Function dialog box. Excel will automatically insert the cell reference of the row or column into the function (if appropriate).

CLASSROOM ACTIVITIES

1. Quick Quiz:
   - The _____ calculates the total number of values. (Answer: D)
     A. SUM
     B. AVERAGE
     C. MEDIAN
     D. COUNT
   - True/False: Functions are used to simplify formulas. (Answer: True)
2. Group Activity:

   Divide students into groups of two or three. Assign each group one of the functions. Ask each group to use the help available in the dialog box to research their assigned function. They should learn what the function does, what data is needed, and an example of how to use the function. In addition, have each group try to think of a situation in which they would use their assigned function. After about 10 minutes, ask each group to share with the rest of the class what they have learned.

EX 37 Working with Worksheets

LECTURE NOTES

- Demonstrate how to insert or delete a worksheet
- Demonstrate how to rename a worksheet
- Demonstrate how to move and copy a worksheet

TEACHER TIP

Explain that worksheets in a workbook are much like sheets or pages within a book. Think of them as being stacked on top of one another and you just peruse through them like you flip the pages of a book. As with other features in Excel, there is more than one way to move, copy, and work with worksheets.

CLASSROOM ACTIVITIES

1. Quick Quiz:
   - New Excel workbooks contain how many worksheets? (Answer: C)
     A. One
     B. Two
     C. Three
     D. Four
   - True/False: Worksheets cannot be deleted. (Answer: False)
2. Creative Thinking Activity:
   If you create a copy of an existing worksheet and insert it between some existing sheets how will the copied worksheet be identified? (Answer: The worksheet will have the same name as the original, but with a (2) following the name.)

EX 38 Editing Worksheet Content

LECTURE NOTES

- Demonstrate how to edit the value of a cell
- Demonstrate how to undo and redo an action
- Explain and demonstrate the find and replace feature
- Demonstrate how to use the spell checker

FIGURES

- Figure 1-25, Figure 1-26, Figure 1-27

TEACHER TIP

As soon as you begin to type a value for a cell, you enter editing mode. Explain that they must complete the edit before they can perform some other operation. Completing the edit is accomplished either by pressing the Enter key or by moving the cursor to another cell.

Illustrate how students can easily reverse the effect of an action by pressing the Undo button. This is a great "safety net" as long as too many actions have not been completed before you decide you want to reverse an action.

Another way for your students to move or copy a worksheet is to right-click the sheet tab and click Move or Copy. Excel opens the Move or Copy dialog box. From this dialog box students can move or copy the select the sheet to a new location in the current workbook or to a new location in a different workbook.

In addition to undoing and redoing an action, your students can also "repeat" an action. The repeat option is not added to the Quick Access Toolbar by default, but you can add it as follows:
1. Click the Microsoft Office Button and then click Excel Options.
2. Click Customize.

3. Under Choose Commands from click Popular Commands.
4. In the list of commands, click Repeat and then click Add.
5. Click OK. The repeat button is now available on the Quick Access Toolbar.

CLASSROOM ACTIVITIES

1. Quick Quiz:
   - To edit a cell's contents, you need to work in _____. (Answer: editing mode)
   - True/False: You can reverse more than one action by clicking on the Undo button's list arrow. (Answer: True)
2. Class Discussion:

   If you make a mistake while entering data, what can you do? (Answer: You can press the Esc key or click the Cancel button on the formula bar to cancel all of the changes you made while in editing mode.)

EX 43 Previewing and Printing a Workbook

LECTURE NOTES

- Demonstrate how to change worksheet views
- Show how to change the page orientation
- Demonstrate how to print a workbook
- Show how to view and print worksheet formulas

FIGURES

- Figure 1-28, Figure 1-29, Figure 1-30, Figure 1-31, Figure 1-32

TEACHER TIP

Remind students that switching views doesn't change the information in the workbooks, just the way you view it on the screen.

Explain that the Landscape orientation is often used when printing a worksheet because there are often many columns. Printing in landscape allows you to see more columns at once.

Explain also that printing the formulas is usually done to check your formulas. As an instructor, you might consider having students print their formulas along with any worksheets they turn in. This way when you see an error in their results you can compare the error with their formulas to see why they are not getting the correct results.

When you change from normal view to formula view, Excel doubles the width of each column in pixels.

CLASSROOM ACTIVITIES

1. Quick Quiz:
   - To toggle in and out of formula view, press the _____ keys. (Answer: Ctrl+` keys. The ` grave accent symbol is usually located above the Tab key on your keyboard.)
   - _____ a printout reduces the width and the height of the printout to fit the number of pages you specify by shrinking the text size as needed. (Answer: Scaling)
2. Class Discussion:

   Why would you want to print the formulas? (Answer: Printing the formulas is usually done to check your formulas)

End of Tutorial Material

- **Review Assignments:** Review Assignments provide students with additional practice of the skills they learned in the tutorial using the same tutorial case, with which they are already familiar. These assignments are designed as straight practice only and should not include anything of an exploratory nature.

- **Case Problems:** A typical NP tutorial has four Case Problems following the Review Assignments. Short tutorials can have fewer Case Problems (or none at all); other tutorials may have five Case Problems. The Case Problems provide further hands-on assessment of the skills and topics presented in the tutorial, but with new case scenarios. There are four types of Case Problems:
  - **Apply**. In this type of Case Problem, students apply the skills that they have learned in the tutorial to solve a problem. Apply Case Problems can include Explore steps, which go a bit beyond what was presented in the tutorial, but should include only one or two Explore steps if any at all.
  - **Create**. In a Create Case Problem, students are either shown the end result, such as a finished Word document, and asked to create the document based on the figure provided; or, students are asked to create something from scratch in a more free-form manner.
  - **Challenge**. A Challenge Case problem involves three or more Explore steps. These steps challenge students by having them go beyond what was covered in the tutorial, either with guidance in the step or by using online Help as directed.
  - **Research**. In this type of Case Problem, students need to go to the Web to find information that they will incorporate in their work for the Case Problem.

  A tutorial does not have to include each of the four types of Case Problems; rather, the tutorial's content should dictate which Case Problems to include. It's possible, therefore, that some tutorials might have three Case Problems of one type and only one Case Problem of a different type. To the extent possible, the first Case Problem in a tutorial should be an Apply so that the Case Problems progress in degree of difficulty.

- **Internet Assignments:** Internet Assignments are additional exercises that students access via the Student Online Companion Web site. These assignments integrate the skills the students learned in the tutorial with research on the Web. Not all books or tutorials include Internet Assignments; for example, in the Office First Course text, only the application tutorials (Word, Excel, Access, and PowerPoint) have Internet Assignments.

- **ProSkills Exercises:** This feature is new for Office 2010 and Windows 7. ProSkills exercises integrate the technology skills students learn with one or more of the following soft skills: decision-making, problem-solving, teamwork, verbal communication, and written communication. The goal of these exercises is to enhance students' understanding of the soft skills and how to apply them appropriately in real-world, professional situations that also involve software application skills. ProSkills exercises are offered at various points throughout a text, encompassing the concepts and skills presented in a standalone tutorial or a group of related tutorials.

Glossary of Key Terms

- active cell (EX 2)
- active sheet (EX 2)
- adjacent range (EX 23)
- arithmetic operators (EX 30)
- AutoComplete (EX 11)
- autofitting (EX 17)
- AutoSum (EX 23)
- cell (EX 2)
- cell range (EX 22)
- cell reference (EX 6)
- chart sheet (EX 5)
- clearing (EX 20)
- column headings (EX 2)
- cutting (EX 28)
- date data (EX 9)
- deleting (EX 20)
- drag and drop (EX 27)
- Edit mode (EX 39)
- Excel (EX 1)
- formula (EX 22)
- formula bar (EX 2)
- formula view (EX 46)
- function (EX 34)
- landscape orientation (EX 44)
- Microsoft Excel 2010 (EX 1)
- Name box (EX 2)
- nonadjacent range (EX 23)
- Normal view (EX 43)
- number data (EX 9)
- operators (EX 30)
- order of precedence (EX 30)
- Page Break Preview (EX 43)
- Page Layout view (EX 43)
- pixel (EX 16)
- planning analysis sheet (EX 8)
- point (EX 17)
- portrait orientation (EX 44)
- range (EX 22)
- range reference (EX 24)
- replacement string (EX 40)
- row heading (EX 2)
- scaling (EX 47)
- search string (EX 40)
- Select All button (EX 2)
- sheets (EX 2)
- sheet tab (EX 2)
- sheet tab scrolling buttons (EX 2)
- spelling checker (EX 22)
- spreadsheet (EX 4)
- Sum button (EX 23)
- text data (EX 9)
- text string (EX 9)
- time data (EX 9)
- truncated (EX 10)
- view buttons (EX 23)
- what-if analysis (EX 4)
- workbooks (EX 2)
- worksheet (EX 2)

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Colleen's Budget

	January	February	March	April	Total
Rent	$700.00	$700.00	$700.00	$700.00	$2,800.00
Water	$44.00	$34.00	$40.00	$25.00	$143.00
Electricity	$25.00	$32.00	$25.00	$33.00	$115.00
Clothing	$100.00	$300.00	$200.00	$250.00	$850.00
Groceries	$150.00	$150.00	$150.00	$150.00	$600.00
Cable	$22.00	$15.00	$22.00	$15.00	$74.00
Phone	$23.00	$23.00	$23.00	$23.00	$92.00
Internet	$10.00	$10.00	$10.00	$10.00	$40.00
Gas	$100.00	$100.00	$100.00	$100.00	$400.00
Recreation	$200.00	$200.00	$200.00	$300.00	$900.00
	$1,374.00	$1,564.00	$1,470.00	$1,606.00