

## Intermediate Microsoft Excel 2002

Instructor - Mr. Curt Minich

- 1) Verify the formulas in your worksheet.
  - a) Make sure that your formulas for cells L6 through L8 are currently correct with the values 1155, 7000, & 4080 (with commas where appropriate). Since we added the July column, we may have to update cells L6 through L8.
  - b) Hold down the Control key and strike the apostrophe in the upper left area of the keyboard to change the worksheet to the Formulas view. Verify the other formulas on your worksheet by clicking on cells that contain formulas and checking them in the formula bar. Return to the standard Values view of the worksheet by typing the same key combination.
  
- 2) Create a chart.
  - a) Select the range C5:K10.
  - b) Click the **Chart Wizard** button on the toolbar. It looks like a little bar chart.
  - c) Click the Line entry on the left under "Chart type".
  - d) Click the Finish button at the bottom of the window.
  - e) Click anywhere in the white background area of the chart and drag it towards the bottom of the window in order to reposition the chart below the table.
  - f) Change an entry in one of the cells in your table and notice how your chart automatically updates when you hit the Enter key. Use the Edit/Undo menu command to revert the cell's entry back to its original value.
  - g) Save the workbook to prevent losing data.
  
- 3) Creating different kinds of charts.
  - a) Select the range C6:C8. Hold down the Ctrl (Control) key on the keyboard and select the range L6:L8. Let go of the Ctrl key and you will see two separate ranges appear as selected.
  - b) Click the Chart Wizard button on the toolbar.
  - c) Choose an interesting Category from the left side of the window that appears.
  - d) Click and hold the button labeled "Press and hold to view sample" in order to preview that style of chart.
  - e) After experimenting with different chart categories, select the Pie category.
  - f) Click the "Exploded pie with a 3-D visual effect" entry on the right-hand side of the window. This entry is in the middle of the bottom row.
  - g) Click the Next button.
  - h) Click the Next button again.
  - i) Click the Titles tab and type an appropriate title like "Category Totals".
  - j) Click the "Data Labels" tab and select the "Percentage" option.
  - k) Click the Next button.
  - l) Click the Finish button.
  - m) Resize both charts by dragging the black handles around the perimeter of the chart. When your mouse appears as a double-headed arrow, you can resize the chart in this manner. Also, position the charts next to each other below your table of data by dragging them with the four-headed arrow that appears when you move the mouse over any background area of a chart.
  - n) Save the workbook to prevent losing data.

- 4) Working with a chart.
  - a) To move a chart, click anywhere in its white background area and drag your mouse to a new location.
  - b) To resize a chart drag any of the small, black squares around the edge of the chart. (You may have to first click anywhere in the white background of chart to make the squares appear.)
  - c) Place both of your charts so that their top edges lie along row 18.
  - d) Save the workbook to prevent losing data.
  
- 5) Using the AutoCalculate area of the status bar.
  - a) At any time while you are viewing a worksheet, you can use the status bar at the bottom of the screen to compute some handy statistics.
  - b) Select any range of cells that contain numbers such as the range E6:F8.
  - c) Look in the status bar in the lower-right corner of the worksheet window. It should say Sum = \$ 5,580. Select another range of cells to notice how any given sum can be quickly and easily computed without using a formula or a calculator.
  - d) Right-click in the AutoCalculate area of the status bar (anywhere near the word Sum) and a set of different statistics are offered including Average, Max, and Min. Click on any of these options to see those statistics on the selected range.
  - e) Save the workbook to prevent losing data.
  
- 6) Using your own formulas.
  - a) Click on the tab for Sheet2 at the bottom of your worksheet window.
  - b) Type Jan into B1. Use the fill handle to fill Feb through Jul into the range C1:H1.
  - c) Type Pay 1 into cell A2. Use the fill handle to place Pay 2 and Pay 3 into A3 and A4 respectively.
  - d) Type Monthly Gross into A5.
  - e) Type the number 1000 into each month's Pay 1 and Pay 2 cells. Type 1000 into the Pay 3 cells for Jan, Apr, and Jul.
  - f) Select cell B5 and double-click the AutoSum button on the toolbar at the top of the window. The value 3000 should appear in B5. Use the fill handle to copy this formula into cells C5 through H5.
  - g) Type "tax rate" in cell B8 and 0.2 in cell C8.
  - h) Click the Sheet1 tab and type the formula **=Sheet2!B5 \* (1 - Sheet2!\$C\$8) - E10** into E12. Press the Enter key when you've finished typing the formula. The \* represents multiplication in Excel. (The other operators +, -, and / are used for addition, subtraction, and division, respectively.) The reference to **Sheet2!B5** means that the value in cell B5 of the worksheet named Sheet2. Therefore, the formula that you just typed will cause B5 on Sheet2 to be multiplied by 0.2 since 1 - 0.8 is 0.2. The reference to Sheet2!\$C\$8 simply means the value stored in C8 on Sheet2. We will discuss the dollar symbols later. Then E10 is subtracted from that result. I've used the 0.2 factor assuming that your gross income will be reduced by an approximately 20% overall tax rate.
  - i) Drag the fill handle from E12 to K12 to apply this formula to the other months.
  - j) If the dollar symbols had not been used with C8, Excel probably would not have used the correct 0.2 value in all of the cell formulas. Using the dollar symbols makes the \$C\$8 an absolute cell reference that is not automatically updated when the formula is copied to other cells.
  - k) Type the formula

**=IF(SUM(E12:K12)>0, "Under Budget", "Over Budget")**

into C12. This statement uses the IF function as well as the SUM function. The first part in the parentheses after the IF is a true or false expression. In this case, if the sum of cells E12 through K12 is greater than zero then the expression is true. Otherwise, the expression is false. If the expression is true, then the phrase in the middle of the IF parentheses ("Under Budget") will appear in cell C12. If the expression is false, then the phrase "Over Budget" will appear in C12. By the way, the symbol for less than is < and the symbol for not equal to is <>.

- l) Temporarily type the number 10000 into cell E8 and press the Enter key. Not only will some of your totals change (as well as your charts) but you will also see the phrase "Under Budget" be replaced by "Over Budget". The IF function is responsible for that change because the true/false expression evaluated to false instead of true.
  - m) Change E8 back to 3000.
  - n) Save the workbook to prevent losing data.
- 7) Demonstration of other built in Excel functions.
- a) Click cell K2.
  - b) Click the Insert/Function... menu command.
  - c) Next to "Or Select the category" select the category "Date & Time".
  - d) Scroll down in the "Select a function" window and select the NOW function.
  - e) Click the OK button.
  - f) Click the OK button that appears in the next new window.
  - g) You may see a bunch of pound symbols (#####) in cell K2. This means that there is not enough room to show the number that wants to appear there. Simply resize the column by dragging the little line between column K and column L to the right to make the column wider. You should see today's date and time appear in K2. This will update anytime you open this worksheet.
  - h) Save the workbook to prevent losing data.
- 8) Copy and paste from Excel to Word.
- a) You can copy and paste data or charts from Excel to Microsoft Word.
  - b) Click in the background of either chart.
  - c) Click the Edit/Copy menu command.
  - d) Open up the program Microsoft Word.
  - e) Click the Edit/Paste menu command in Word. Congratulations you've just copied an Excel chart into Word.
  - f) Click the Excel tab at the bottom of your computer screen and select the range of cells C5:L10 and then click the Edit/Copy menu command.
  - g) Go to the Word document and use the Edit/Paste command to paste this table of data to the Word document. (Some of it may not fit on the page but that could be adjusted within Word.)
  - h) Close Word without saving the document since we won't be using it again.
  - i) In Excel, click any empty cell and choose the Edit/Clear/All menu command in order to remove the blinking outline that appears around your table.
  - j) Save the workbook to prevent losing data.
- 9) Sorting in Excel
- a) Select the range C6:L8.

- b) Click the Data/Sort menu command.
- c) Select "Column L" under the Sort by area and then click the Descending option button.
- d) Make sure that "No header row" is marked as well.
- e) Click the OK button and you will see that Excel rearranged your budget categories and ordered them in descending order so that Mortgage is listed above the other two categories.
- f) Save the workbook to prevent losing data.

10) Calculating loan payments and savings quickly and easily with Excel.

- a) Click on the Sheet3 tab.
- b) Type the formula **=PMT(8%/12, 60, 30000)** into cell C3. When you press the Enter key you will see the monthly payment amount on a \$30,000 car over 60 months (5 years) at an 8% annual interest rate. (Answer: \$608.29). The format for the PMT (Payment) function is:

**= PMT(annual interest rate / 12, number of monthly payments, loan amount)**

- c) Type the formula **= FV(5%/12, 60, -100)** into cell C6. When you press the Enter key you will see how much money you will have if you save \$100 every month for 5 years (60 payments) at a 5% annual interest rate. (Answer: \$6,800.61). The format for the FV (future value) function is:

**= FV(annual interest rate / 12, number of monthly payments, amount of monthly payment)**

- d) Save the workbook to prevent losing data.

11) Advanced cell formatting

- a) Type 78.999 into cell B15 on Sheet2 and then click another cell to observe the default format.
- b) Click cell B15 again to select it and then click the Format/Cells menu command. Click the Number category and then click OK and observe the effect. The value in the cell changed to 79.00 but the value that's displayed in the Formula Bar at the top of the window is still 78.999. Excel uses cell formatting to only change the "look" of a number in a cell. The underlying value is left unchanged.
- c) Click the Format/Cells menu command again and try some other formats and categories. Change the 78.999 to other values if necessary.
- d) Click the Format/Cells menu command and then click the Alignment, Font, Border, & Patterns tabs to check out the different appearances that are available for a cell.

12) Odds and Ends

- a) Click the Insert/Worksheet menu command to insert a new worksheet into your Excel workbook.
- b) You can rename a sheet by double-clicking one of the sheet tabs and typing a new name. Any formulas that used the sheet name will be automatically updated.
- c) You can reorder the sheet tabs at the bottom of your worksheet window by clicking and dragging a sheet tab to a position between two other sheets.

- d) Let's say that you want to print out your budget on Sheet1 but you don't want the Entertainment category to show up on the printout. Right-click overtop the 8 in Row 8 and then click the Hide command. Row 8 is now hidden and you can print the Sheet1 worksheet. When you want to display Row 8 again, you must click and drag through rows 7 and 9 to select both of those rows. Then right-click over those rows and click the Unhide command. Row 8 should be visible again.
  - e) You can use the "split pane view" to fix a row with column titles toward the top of your computer screen. This can be used to allow you to scroll through the bottom portion of your worksheet with the column titles fixed at the top of the screen. To do this, you must carefully click the small horizontal marker that is just above the up scroll arrow on the right-side of the window. When you drag this horizontal marker downwards, it creates a split pane across the horizontal width of your worksheet. Drag the pane divider back to the top of the screen to revert back to the single-pane view.
  - f) To create a hyperlink within your worksheet, you can simply type any web page address that begins with www. The address should be underlined in blue. When you click this address, Internet Explorer will open to that Web page.
- 13) Demonstration of several worksheets that the instructor uses in real life!
- a) A worksheet used to merge Excel data with Microsoft Word form letters for an annual church offering report.
  - b) A worksheet used to keep track of a department's budget.
  - c) A worksheet used to keep track of student scores in a national computer contest.
  - d) A worksheet used to keep track of car oil changes.
  - e) A worksheet used to keep track of running race times.
  - f) A worksheet used to tabulate wedding RSVP's.