**EXCEL 2016 – BASICS PART 1**

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| **Participant Guide** |



**EXCEL 2016 – BASICS PART 1**

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| **Target Audience:** | | This class was designed to meet the needs of new Excel users |
| **Time Allotted:** | | 3 hours |
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| **Objectives:** | | |
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| **Overall:** | At the end of this course you will be able to create basic spreadsheets using Excel 2016. | |
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| **Specific:** | Participant will…   * Demonstrate a basic understanding of how Excel 2016 is organized * Know what is meant by the terminology ribbons, groups, conditional ribbons and tabs * Use basic Excel commands * Employ the use of the quick access toolbar * Create, modify and format worksheets * Review a worksheet * Describe how to print and save worksheets | |

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| ***Agenda*** | ***Notes*** |
| * Housekeeping * Introductions * Excel 2016 Overview * Home Tab * Insert Tab * Page Layout Tab * Review Tab * Pasting in Excel * Questions and Answers |  |

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| ***Introduction Activity*** | ***Notes*** |
| *Please tell us:*   * *Your Name* * *Your Department* * *What you hope to get out of today’s session* |  |

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| ***Excel 2016 Overview*** | ***Notes*** |
| **Excel Ribbon**  The Excel 2016 ribbon displays various tabs. Each tab contains command buttons related to the tab’s name.    **Home** tab–The most used functions in Excel. Here you can change font size, text color, alignment, type of text, increase or decrease decimal places, apply cell styles, insert rows or columns, delete rows or columns, format cells, sort and filter, use the find feature, and more.  **Insert** tab–Createcharts and graphs, and insert pictures, text boxes, pivot tables, header and footer information, word art, and a signature line.  **Page Layout** tab–Change themes, adjust the page set up including margins and page orientation, and set view and print options for gridlines and headings.  **Formulas** tab–Includes functions insert, formula auditing, and calculation options.  **Data** tab – Sort and filter, get external data, group, ungroup and subtotal.  **Review** tab– Spell-check, create comments, and control sheet security.  **View** tab– Change workbook views, zoom, freeze and unfreeze panes, and create macros.  **Developer** tab – Not displayed as a default, but easy to activate. The Macros buttons are located in this tab.  **Groups**  A group is a section of a tab that contains related command buttons. Each tab has its own set of groups. The name of the group appears at the bottom of that group. The screenshot below displays some of the groups found in the **Home** tab.    Clipboard Group  Font Group  Alignment Group  Number Group  Styles  Group  Cells Group  Editing Group  **Spreadsheet Basics**   * Columns * Rows * Formatting is applied to highlighted cells   **Keyboard shortcuts**  A keyboard shortcut allows you to perform a command by pressing two or sometimes three keys, which many people find faster than clicking on the Ribbon then the appropriate Tab and then the appropriate button. Listed below are just a few of the many keyboard shortcuts available in Excel 2016.  **NOTE**: Do not press the + key when using keyboard shortcuts. They are shown to mean that you need the CTRL key (or ALT key or both) **and** the letter key.    **Name Box**  The **Name Box** is located below the **Ribbon** on the left side, and displays the cell reference of the active cell.  **NOTE**: Also called the cell address, the cell reference consists of the column letter and the row number. The column letter is always first. Try entering XFD1048576 in the **Name Box**.      **Automatically** **adjust column width**  When data is entered into a cell, the data may take up more space than the width of the column the cell is in. It is easy to adjust the width of the column (and hence the cell) to the size you want, or to a size that fits the contents of the column.   * To change the width of one column, drag the boundary on the right side of the column heading (for example, the line between column heading A and column heading B in the screenshot below) until the column is the width that you want.   **NOTE**: Your cursor will change to a double-sided arrow when you are correctly positioned to drag the column border.   * To change the width of multiple columns, select the columns that you want to change, and then drag a boundary to the right of a selected column heading. * To change the width of columns to fit the contents, select the column or columns that you want to change, and then double-click the boundary to the right of a selected column heading. * To change the width of all columns on the worksheet, click the **Select All** button (circled in screenshot below), and then drag the boundary of any column heading.     **Quick Access Toolbar**   * Located in the top left hand corner of the worksheet screen      * Fully customizable through the **File** tab, then **Options**  File Tab (Back Stage View)  * Combines all of the non-editing related tasks * Save, Save As – Use file naming conventions if your department has them * Customize Excel Options - Customize the ribbon; move the quick access toolbar above or below the ribbon; customize the quick access toolbar to add or remove commands |  |
| ***The Home Tab*** | ***Notes*** |
| **Clipboard Group**   * **Paste**: Places the contents of the clipboard to the cell or cells designated   **NOTE**: There are many paste options available in Excel 2016   * **Cut**: Delete the selection and place it onto the clipboard * **Copy**: Put the selected values onto the clipboard - does not delete the text * **Format** **Painter**: Copy formatting from one place and apply it to another     **Font Group**   * Change the way the worksheet cells appear * Change font type and size * Text and number formatting * Add cell background color * Adjust font color * Add cell borders     **Alignment Group**   * Set horizontal and vertical placement of text within the cell * Merge cells * Wrap text * Change the direction of text * Increase or decrease indent     **Wrap Text**  Wrapping text w**i**ll make all content visible within a cell by displaying it on multiple lines.   1. Highlight the cells, rows or columns to wrap 2. From the **Home** tab, click **Wrap Text** button in the **Alignment** group.   **NOTE**: You may need to adjust column width to see the results. |  |
| **Merge and Center**  Merging joins the selected cells into one cell. Click on the drop-sown arrow for merge options.   * **Merge & Center**: Joins the selected cells into one larger cell and centers the contents in the new cell; often used to create labels that span multiple columns * **Merge Across**: Merge each row of the selected cells into one larger cell * **Merge Cells**: Combine the selected cells into one cell * **Unmerge Cells**: Split the selected cells into multiple new cells |  |
| **Number Group**  In this group you can change the way a number is formatted within cells.    **Styles Group**   * Format cells based on criteria, emphasizing unusual values * Format a range of cells and convert them to a table * Choose different styles for the entire worksheet or specific cells     **Cells Groups**   * Insert or delete cells, rows or columns into the sheet or table, or add a sheet to the workbook * Change the row height or column width, organize sheets, or protect or format cells     **Editing Group**   * Display the sum of the selected cells directly after the selected cells * Continue a pattern into one or more adjacent cells * Clear data from cells or clear formatting from worksheet * Sort and Filter data so that it is easier to analyze * Find and select specific text, formatting, or type of information within the document |  |

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| ***Exercise #1 : Review of Home Tab*** | ***Notes*** |
| 1. From the desktop, open the Excel file **Products List** in the Classwork folder on your desktop. 2. Select the entire worksheet and automatically resize the columns. 3. On the **Home** tab:    1. Merge and center the top row across the data.    2. Change the font size of this new title and make it bold.    3. Change the number value to currency in the price and total columns.    4. Insert a blank row under row 4.    5. Insert a blank column between B and C.    6. Delete the new row and column you just added.    7. Add a fill color of red to Product ID cells that have a quantity of 5 or fewer.    8. Add a fill color of green to all cells containing a price of more than $200.    9. Add bold to totals of more than $1000.    10. Name the worksheet.    11. Color code the sheet tab.    12. Delete row 1.    13. Make the data in the new row 1 bold and centered.    14. Make the data in column A bold    15. Place a thick box border around all of the data. |  |
| ***The Insert Tab*** | ***Notes*** |
| **Tables Group**   * Summarize data using a Pivot Table * Create a table to manage and analyze related data     **Illustrations Group**   * Insert a picture, clip art, shapes, SmartArt and screenshots to better illustrate the data     **Add-ins Group**   * Find and insert add-ins to use in Excel     **Charts Group**   * Insert charts of varying types and styles to lend a more visual aspect to the data     **Tours Group**   * See your geographic data on a 3D map, visualized over time     **Sparklines Group**   * Insert a line chart, column chart, or win/loss chart into a single cell     **Filters Group**   * Insert a Slicer to filter data visually – used primarily for Pivot Tables * Filter dates interactively     **Links Group**   * Create a link to a web page, a picture, an e-mail address, or a program     **Text Group**   * Insert a text box that can be placed anywhere on the document * Insert and edit Headers or Footers on the document * Insert decorative text in the document * Insert a signature line that specifies the individual who must sign * Insert an embedded object     **Symbols Group**   * Insert common mathematical equations or build up your own. * Insert characters that are not on the keyboard.     **A Different Type of Insert - Extending a Data Series**  You don’t always have to type the data in each cell of a range. Excel helps you fill progressive data, such as a series of numbers, dates, and months, in a range of cells.  **To fill a range of cells with a number series:**   1. In the first cell of the range, type the first number of the series. 2. In the next cell in the range, type the next number of the series. 3. Select both the cells, then point to the lower-right corner to display the fill handle.      1. When a fill handle appears, drag the fill handle across the required range of cells that you want to fill with the number series. |  |
| ***The Page Layout Tab*** | ***Notes*** |
| The Page Layout tab contains commands related to the way things fit onto a page. Margins, paper size, print area, view gridlines and print gridlines are all accessible and changeable in this tab. Options set on this tab are set for the active sheet only. To set the Page Layout for the entire workbook use Excel Options from the File tab.  **Themes Group**   * Uniformly format all the text and graphics in a worksheet with theme. * Change the look of the document by changing the theme colors, fonts and effects     **Page Setup**   * **Margins:** Select the margin sizes for the entire document or the current section |  |
| * **Orientation:** Switch the pages between portrait and landscape layouts * **Size:** Choose the size of the paper on which the document will print |  |
| * **Print Area**: Mark a specific area of the sheet for printing, or clear the current print area |  |
| * **Breaks**: Specify where a new page will begin in the printed copy * **Background**: Choose a picture for the background * **Print Titles**: Choose rows and columns to repeat on each printed page |  |
| **Page Breaks**  You can use a page break to logically divide a worksheet into separate pages. Dividing a worksheet into multiple pages makes the worksheet suitable for printing and easier to work with.  **To Manually Add a Page Break:**   1. Select a row or a column where you wish to insert the page break. 2. On the **Page Layout** tab, in the **Page Setup** group, click **Breaks**. 3. Click **Insert Page Break**.   **NOTE**: Excel 2016 inserts a page break above the selected row or to the left of the selected column.  **NOTE**: If manual page breaks that you insert do not take effect, it may be that the **Fit To** scaling option has been selected on the **Page** tab of the **Page Setup** dialog box (**Page Layout** tab, **Page Setup** group, Dialog Box Launcher ). To use the manual page breaks, change the scaling to **Adjust to** instead.  **To Delete a Page Break:**   1. Select the row below the page break or the column to the right of the page break. 2. On the **Page Layout** tab, in the **Page Setup** group, click **Breaks**, and then click **Remove Page Break**.   **To Manually Adjust the Location of Page Breaks:**   1. At the bottom right corner of your spreadsheet, click on the **Page Break Preview** button.      1. Your spreadsheet view will change.      1. To change your page breaks, click and drag the horizontal dotted blue lines up or down, or the vertical lines left or right.     **Page Setup group continued…** |  |
| * **Background**: Choose and image to display as the background of the sheet * **Print Titles**: Specify rows and columns to repeat on each printed page |  |
| **TIP**: When using the **Print Titles** functionality, follow these steps.   1. From the **Page Layout** tab click on **Print Titles** in the **Page Setup** group. 2. To select the partial area of the worksheet to print, click in the **Print area** field, then highlighting the area on the worksheet. Leave blank to print the entire worksheet. 3. Select the rows to repeat by typing in the cell references, or simply by clicking in the **Rows to repeat at top** field and then clicking on the appropriate row or rows. 4. If appropriate, select the columns to repeat by typing in the cell references or simply by clicking in the **Columns to repeat at left** field and then on the appropriate columns. 5. If you wish to print headings, click in the **Row and column headings** checkbox. 6. Click **OK**. |  |
| **Scale to Fit**   * Automatically fit a spreadsheet onto a certain size paper     **Sheet Options**   * Set options for printing and viewing gridlines and headings     **Arrange**   * Allows selected objects to be moved within the worksheet |  |

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| ***Exercise #2: Adjusting Print and Page Settings*** | ***Notes*** |
| 1. From the Classwork folder on the desktop, open the Excel file **Employee\_Salary**. 2. Make row 1 bold. 3. On the **Page Layout** tab:    1. Set print area to be from row 1 through row 10. (**Page Setup** group)    2. Print Gridlines. (**Sheet Options** group)    3. Change the print orientation to Landscape. (**Page Setup** group)    4. Change the Scale to 150%. (**Scale to Fit** group)    5. Center the spreadsheet horizontally and vertically.       1. Click the arrow in the bottom right corner of the **Page Setup** group.       2. Choose the **Margins** tab.       3. Check the boxes for **Horizontally** and **Vertically**. 4. Show the spreadsheet in Print Preview. |  |
| ***The Review Tab*** | ***Notes*** |
| The **Review** tab contains commands related to reviewing and editing an existing worksheet.  This tab is where review comments can be made, language can be translated, and where access to the worksheets and workbooks can be protected or shared. Proofing  * Check the spelling of text * Find alternate words to the ones you have selected     **Insights**   * Learn more about text you select by seeing definitions, images, and other result from various online sources     **Language**   * Automatically translate text from one language to another     **Comments**   * Add comments to a spreadsheet to explain the cell contents or to communicate with others in a shared spreadsheet.     To add comments to a cell, follow these steps.   1. Click the cell where you want to place the comment. 2. In the **Review** tab click on **New Comment** from the **Comments** group. 3. Type your comments in the text box that opens next to the cell you had selected.      1. When finished entering your comments, click outside the text box to close it. A red triangle will display in the upper right corner of the cell.     **NOTE**: To view a comment that already exists, move your cursor over the cell that contains the red triangle. The comment text box will display on your screen. To remove a comment, click in the cell that contains the red triangle then click **Delete** from the **Comments** group. |  |

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| *Exercise #3: Reviewing and adding comments* | ***Notes*** |
| 1. Open the Excel file **Employee\_Salary**. 2. Review the comments in the **Salary** worksheet. 3. How many are there? What do they say? Who is the author? 4. Add a comment to adjust an Employee ID #. |  |

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| ***Exercise #4: Create multiple worksheets*** | ***Notes*** |
| 1. In the Excel workbook **Employee\_Salary**, what are the names of the two worksheets? 2. Insert a new worksheet. (Plus sign to the right of the last worksheet tab) 3. Name the new worksheet **Bonuses** and color the tab blue. 4. Copy and paste the **Status** worksheet into the new worksheet. 5. Format the cells with a **Style** of your choice. 6. In the new **Bonuses** worksheet, change the column heading Status to read Bonus. 7. Remove the data from the cells in the new Bonus column and replace with either a Yes or No…. your choice. 8. In the **Salary** worksheet, add a total to the salary column. 9. Add a link in the new **Bonus** worksheet, below the data, to the salary total in the **Salary** worksheet. |  |
| *Pasting in Excel* | ***Notes*** |
| Pasting formulas, values, links, and pictures is different from pasting normal text in a worksheet because of the special formatting of these content types. Excel includes paste options that help paste this type of content in a worksheet. By using these paste options, the source formatting and the width of the source columns can be maintained. Conversely, copied content can be pasted with destination formatting applied. The paste options are now available in the **Paste** gallery.   |  |  | | --- | --- | | **Paste Options** | **Descriptions** | | Paste | Pastes everything from the source, including formulas and formatting. | | Formulas | Pastes text, numbers, and formulas in the current cell selection without their formatting. | | Formulas & Number Formatting | Pastes the number formats assigned to the copied values along with their formulas. | | Keep Source Formatting | Preserves all original formatting of the pasted selection. Preserves all formulas as well. | | No Borders | Pastes everything from the cell selection without copying any borders applied to the cell range. | | Keep Source Column Widths | Preserves the column widths as well as all formulas and formatting. | | Transpose | Changes the orientation of the pasted entries, so that columns become rows and rows become columns. | | Values | Pastes only the calculated results of any formulas in the source cell range. | | Values & Number Formatting | Formatting is preserved only for numeric values, including dates. Additionally, only formula results are pasted. Text formatting is removed. | | Values & Source Formatting | Pastes only the calculated results of any formulas, and preserves all formatting. | | Formatting | Pastes only the formatting, leaving all values and formulas out of the pasted range. | | Paste Link | Links the pasted cells to their source range. Changes made to the entries in the source range are reflected in the destination range. All formatting and formulas are removed. | | Picture | Pastes the copied range as a picture. | | Linked Picture | Pastes the copied range as a linked picture. Changes to the source range will reflect in the copied picture. | | **Paste Special Options** | **Descriptions** | | All | Pastes everything from the source, including formulas and formatting. | | Comments | Pastes only the comment notes attached to cells. | | Validation | Pastes only the data validation rules from the source range into the destination range. | | All Using Source Theme | Pastes all information plus the cell styles. | | All Except Borders | Pastes everything from the cell selection without copying any borders applied to the cell range. | | Columns Widths | Copies values, and makes the width of the columns in the destination range the same as those in the source range. | | All Merging Conditional Formats | Pastes Conditional Formatting into the destination range. | | None | Prevents Excel from performing any mathematical operation between the data entries copied and the data entries in the destination range. | | Add | Adds the data copied in the source range and the data entries in the destination cell range. | | Subtract | Subtracts the data copied in the source range and the data entries in the destination cell range. | | Multiply | Multiplies the data copied in the source range and the data entries in the destination cell range. | | Divide | Divides the data copied in the source range and the data entries in the destination cell range. | | Skip Blanks | Pastes everywhere except for any empty cells in the source range. A blank cell cannot overwrite a cell in the destination range that contains a value. | | Transpose | Changes the orientation of the pasted entries, so that columns become rows and rows become columns. | | Paste Link | Pastes the copied range as a linked picture. Changes to the source range will reflect in the copied picture. |   **NOTE:** The options that appear as **Paste Options** are context sensitive. This means that the particular paste options available depend directly upon the type of cell entries copied to the Office Clipboard. |  |

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| ***Additional Excel 2016 Tips*** | ***Notes*** |
| **Moving around an Excel 2016 Spreadsheet**  Excel 2016 offers a wide variety of keystrokes for moving from one cell to another. The following table summarizes these keystrokes, including how far each one moves the cell pointer from its starting position.   | **Keystroke** | | **Where the Cell Cursor Moves** | | --- | --- | --- | | Right arrow *or* Tab | | Cell to the immediate right | | Left arrow *or* Shift+Tab | | Cell to the immediate left | | Up arrow | | Cell up one row | | Down arrow | | Cell down one row | | Home | | Cell in Column A of the current row | | Ctrl+Home | | First cell (A1) of the worksheet | | Ctrl+End *or*  End, Home | | Cell in the worksheet at the intersection of the last column that has data in it and the last row that has data in it, (the last cell of the active area of the worksheet) | | Page Up | | Cell one full screen up in the same column | | Page Down | | Cell one full screen down in the same column | | Ctrl+Right arrow *or* End, Right arrow | | First occupied cell to the right in the same row that is either preceded or followed by a blank cell. If no cell is occupied, the pointer goes to the cell at the very end of the row | | Ctrl+Left arrow *or* End, Left arrow | | First occupied cell to the left in the same row that is either preceded or followed by a blank cell. If no cell is occupied, the pointer goes to the cell at the very beginning of the row | | Ctrl+Up arrow *or* End, Up arrow | | First occupied cell above in the same column that is either preceded or followed by a blank cell. If no cell is occupied, the pointer goes to the cell at the very top of the column | | Ctrl+Down arrow *or* End, Down arrow | | First occupied cell below in the same column that is either preceded or followed by a blank cell. If no cell is occupied, the pointer goes to the cell at the very bottom of the column | | Ctrl+Page Down | The cell pointer’s location in the next worksheet of that workbook | | | Ctrl+Page Up | The cell pointer’s location in the previous worksheet of that workbook | |   When moving the cell cursor by using the keystrokes listed in the table, keep the following helpful hints in mind:   * In the case of those keystrokes that use arrow keys, you must either use the arrows on the cursor keypad or else have the **Num Lock** disengaged on the numeric keypad of your keyboard. * The keystrokes that combine the **Ctrl** or **End** key with an arrow key are among the most helpful for moving quickly from one edge to the other in large tables of cell entries or for moving from table to table in a section of a worksheet with many blocks of cells. * When you use **Ctrl** and an **arrow** key to move from edge to edge in a table or between tables in a worksheet, you hold down **Ctrl** while you press one of the four arrow keys. * When you use **End** and an **arrow-key** alternative, you must press and then release the **End** key *before* you press the **arrow** key. Pressing and releasing the **End** key causes the **End** **Mode** indicator to appear on the Status bar. This is your sign that Excel is ready for you to press one of the four arrow keys.  Excel 2016 Data-Entry Guidelines To begin to work on a new Excel 2016 spreadsheet, you simply start entering information in the first sheet of the Book1 workbook window. Here are a few simple guidelines to keep in mind when you create an Excel spreadsheet in Sheet1 of a new workbook:   * Whenever you can, organize your information in tables of data that use neighboring columns and rows. Start the tables in the upper-left corner of the worksheet and work your way down the sheet, rather than across the sheet, whenever possible. When it’s practical, separate each table by no more than a single column or row. * When you set up these tables, don’t skip columns and rows just to space the information out. To place white space between information in adjacent columns and rows, you can widen columns, increase row heights, and change the alignment. * Reserve a single column at the left edge of the table for the table’s row headings. * Reserve a single row at the top of the table for the table’s column headings. * If your table requires a title, put the title in the row above the column headings. * You can use the **Merge & Center** button on the **Home** tab to merge the title across the columns of the entire table.   Given all the real estate that comes with each Excel worksheet — 16,384 columns and 1,048,576 rows — you'd think conserving space would be one of the last things you'd have to worry about. However, space conservation in the worksheet helps with viewing and printing. |  |

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| ***Additional Resources*** | ***Notes*** |
| **To contact me directly:**  Brett Neal – Professional Development & Training  802-656-0630  [brett.Neal@uvm.edu](mailto:brett.Neal@uvm.edu)  **NOTE**: If you are having problems with a spreadsheet, sending me a copy will make it easier for me to help you!  **Additional Resources:**  To view all classes offered by Professional Development & Training, go to our website <http://www.uvm.edu/develop>. Here you can view the class schedule by date, read class descriptions, learn about the certificate programs we offer, and find PeopleSoft Mini Manuals. |  |