Directions for Excel – Line Graph – *Created by Paula E. Irwin*

(Directions for ALL Microsoft Versions are included)

Microsoft Office 2013 to present

Procedure

1. Click on the **Excel** icon on the screen. ***<u>If there is not a shortcut icon available</u>***, then using the mouse, click once on the **Windows** button located in the lower left corner of the screen. Always use the left button on your mouse unless you are asked to use the right.

2. For **Windows 7**, scroll up to **All Programs** and click once on it. A column above should appear. Scroll up or down this column to **Microsoft Office** and click once on it and then scroll down or over and on top of **Excel** in click on it once to open the program. A data spread sheet should be visible. For **Windows 8 & 10**, click on the down arrow button located below the large App Icons on the left. ALL the programs options should be visible. You will most likely have to scroll to the right until you see the Excel Icon.

3. Click on **Blank Workbook** and fill in the spreadsheet with the **data from your data table** into the spreadsheet. Arrange the information into columns and not rows.

4. Click on the bottom left box/cell of data with your mouse and hold the button in as you ***highlight*** the columns only on your spreadsheet. It will plot the first column on the X-axis and the second column on the Y-axis. If you need to highlight different columns, highlight the data for the x-axis first, release, press and hold the CTRL button and highlight the y-axis column data.

5. Click on the **Insert** tab to the right of **Home** in the toolbar at the top. Then, scroll over to the section entitled **Recommended Charts** and click on **2-D line** graph with dots and connecting lines **OR** click on the **Scatter** graph without the dots connected (try them both and determine which is better to plot the data). The graph(s) should appear in the same sheet.

6. The graph should appear with bullets to extend the graph at each corner and in the middle of each sided. There should be a **Chart Title** in the top of the graph. Click on the "**Chart Title**" and change the title to match up with your data. Titles are typically written "Y-Axis vs X-Axis" with the actual name of what is plotted on the Y-axis vs the actual name of what is plotted on the X-axis (*e.g.* Temperature vs Time).

7. To the right of the graph, click on Box with the **+ (Chart Element)**. ***If you have clicked anywhere outside the graph, the bullets will go away and the 3 boxes on the right of the graph will not be visible.*** Scroll down and over to **Axis Titles** and click that box. The Axis Titles will now be visible on the graph. Click on each and enter the Y- and X-axis titles with units in parentheses [*e.g.* Temperature (^{o}C)].

8. To change the **Chart Style**, click on the middle box on the right of the graph with the paint brush. To change the **Chart Filters**, click on the bottom box on the right of the graph with the funnel.

9. **To print your graph**, click anywhere in the white area of the graph to highlight it. *It is highlighted when there are **dots** showing: in each of the four corners, in the top center, and in the bottom center.* **To add your name, class section, date, lab title, etc.**, click on the **Insert** button on the top toolbar and scroll over to the right to **Header and Footer** and click once. If the screen resolution is large, then click on **Text** first, then Header and Footer will be visible in a drop-down box. Click on the **Custom Header** button. Put your name in the Left Section box, class/section in the middle box and the date in the Right Section box and click **OK**. Then, click on the **<u>F</u>ile** button on the top toolbar and scroll down to **Print**, change the paper **Orientation** to **Landscape** and change the **Margins** to **Narrow**. Click the **Print** button to print 1 copy.

Office 365

Procedure

1. After you log into Office 365, click on the Excel icon under the Microsoft Office Home tab.

2. Click on **New Blank Workbook** and fill in the spreadsheet with the **data from your data table** into the spreadsheet. Arrange the information into columns and not rows.

3. Click on the bottom left box/cell of data with your mouse and hold the button in as you ***highlight*** the columns only on your spreadsheet. It will plot the first column on the X-axis and the second column on the Y-axis. If you need to highlight different columns, highlight the data for the x-axis first, release, press and hold the CTRL button and highlight the y-axis column data.

4. Click on the **Insert** tab to the right of **Home** in the toolbar at the top. Then, scroll over to the section entitled **Charts** and click on the **Scatter** graph with or without the dots connected (try them both and determine which is better to plot the data). The graph(s) should appear in the same sheet. The graph should appear with bullets to extend the graph at each corner and in the middle of each sided.

5. To add a graph title, scroll over to the **CHART** section (only visible when the graph is highlighted with the bullets in the corner) under the **CHART TOOLS**. Click on the "**Chart Title**" followed by **Centered Overlay Title** and change the title to match up with your data. Titles are typically written "Y-Axis vs X-Axis" with the actual name of what is plotted on the Y-axis vs the actual name of what is plotted on the X-axis (*e.g.* Temperature vs Time). After you have entered the Title, click **Enter** and type in your **name, class section & date** directly below the title above the graph.

6. To enter in axes titles with units, click on **Axis Title**. ***If you have clicked anywhere outside the graph, the bullets will go away and the Chart Tools for the graph will not be visible.*** Click on the **Primary Horizontal Axis Title** followed by **Title Below Axis** and enter the X-axis title with units in parentheses [*e.g.* Time (s)]. Then, click on the **Primary Vertical Axis Title** followed by **Rotated Title** and enter the Y-axis title with units in parentheses [*e.g.* Temperature (^{o}C)].

7. To add a **Legend** (if you have more than one line on your graph), then scroll over to the **Legend** tab to the right of the Axis Title under the Chart Tools. Click on **Show Legend at Right**.

8. **To print ONLY your graph** (not including the columns), click anywhere in the white area of the graph to highlight it. *Click on the upper left corner and pull the graph enlarging it and covering over your typed columns*. Then, click on the **File** button on the top toolbar and scroll down to **Print** followed by clicking on the Print icon that appears to the right ("Show a print-friendly view."). Click on **Active Sheet** and change the page **Orientation** to **Landscape**. Click the **Print** button followed by **Open a printable pdf of your document**. Make sure your ***ENTIRE*** graph with title, axes titles, units and legend are visible. If NOT, then cancel and go back and pull the graph until it all fits. Scaling it from row 30 and column N on the spreadsheet appears to work the best. Once you have ALL of your graph visible, ask your instructor to approve it ***BEFORE*** you click print.

Microsoft Office 2010

Procedure

1. Click on the **Excel** icon on the screen. ***<u>If there is not a shortcut icon available</u>***, then using the mouse, click once on the **Windows** button located in the lower left corner of the screen. Always use the left button on your mouse unless you are asked to use the right.

2. For **Windows 7**, scroll up to **All Programs** and click once on it. A column above should appear. Scroll up or down this column to **Microsoft Office** and click once on it and then scroll down or over and on top of **Excel** in click on it once to open the program. A data spread sheet should be visible. For **Windows 8**, click on the down arrow button located below the large App Icons on the left. ALL the programs options should be visible. You will most likely have to scroll to the right until you see the Excel Icon.

3. Fill in the spreadsheet with the **data from your data table** into the spreadsheet. Arrange the information into columns and not rows.

4. Click on the bottom left box with your mouse and hold the button in as you ***highlight*** the columns only on your spreadsheet.

5. Click on the **Insert** tab to the right of **Home** in the toolbar at the top. Then, scroll over to the section entitled **Charts** and click on **line** graph with dots and connecting lines. The graph should appear in the same sheet.

6. Click on the graph anywhere in the white area to the right of the graph. There should be a highlighted section at the top entitled **Chart** Tools. Click on **Layouts** and click on the **Chart Title**. You can use either the "Centered Overlay" or "Above Chart" choices to enter your title.

7. To the right of the Chart Title, click on **Axis Titles**. Scroll down and over to **Primary Horizontal Axis Title** (X-axis), click on **Title Below Axis** and enter your X-axis title WITH Units. Then, click on the Axis Titles again, scroll down and over to **Primary Vertical Axis Title** (Y-axis), click on **Rotated Title** and enter your X-axis title WITH Units.

8. **To print your graph**, click anywhere in the white area of the graph to highlight it. *It is highlighted when there are **bullets/dots** showing: in each of the four corners, in the top center, and in the bottom center.* **To add your name, class section, date, lab title, etc.**, click on the **Insert** button on the top toolbar and scroll over to the right to **Header and Footer** and click once. If the **Header and Footer** button is not visible, then first click on the Text button and the Header and footer will be an option that pops up below. Click on the **Custom Header** button. Put your name in the Left Section box and the date in the Right Section box and click **OK**. Then, click on the **<u>F</u>ile** button on the top toolbar and scroll down to **Print**, change the paper **Orientation** to **Landscape** and change the **Margins** to **Narrow**. Click the **Print** button to print 1 copy.

Microsoft Office 2007

Procedure

1. Click on the **Excel** icon on the screen. ***<u>If there is not a shortcut icon available</u>***, then using the mouse, click once on the **Windows** button located in the lower left corner of the screen. Always use the left button on your mouse unless you are asked to use the right.

2. Scroll up to **All Programs** and click once on it. A column above should appear. Scroll up or down this column to **Microsoft Office** and click once on it and then scroll over and on top of **Excel** in click on it once to open the program. A data spread sheet should be visible.

3. Fill in the spreadsheet with the **data from your data table** into the spreadsheet. Arrange the information into columns and not rows.

4. Click on the bottom left box with your mouse and hold the button in as you ***highlight*** the columns only on your spreadsheet.

5. Click on the **Insert** tab to the right of **Home** in the toolbar at the top. Then, scroll over to **Scatter** and click on **line** graph with dots and connecting lines. The graph should appear in the same sheet.

6. Click on the graph anywhere in the white area to the right of the graph. Click on **Chart Layouts** and click on the layout that has a title and axes titles. It is probably the first one visible on the left.

7. If there is only 1 line on the graph, click on the **Series 1** on the graph and delete that "box."

8. Double click on the "**Chart Title**" on the graph, ***highlight*** <u>Chart Title</u>, and hit delete. You can now enter in the title of your graph in that area (box). Click outside the "box" when done. The title should be written as the dependent variable (y-axis) versus the independent variable (x-axis). In other words, you should type in the ACTUAL NAMES of the data that you inputted into the spreadsheet columns (*e.g*. Temperature vs. Time).

9. Click on the "**Axis Title**" on the left (y-axis), ***highlight*** <u>Axis Title</u>, and hit delete. You can now enter the y-axis title with units (in parentheses).

10. Click on the "**Axis Title**" on the bottom (x-axis), ***highlight*** <u>Axis Title</u>, and hit delete. You can now enter the x-axis title with units (in parentheses).

11. **To print your graph**, click anywhere in the white area of the graph to highlight it. *It is highlighted when there are **dots** showing: in each of the four corners, in the top center, and in the bottom center.* **To add your name, class section, date, lab title, etc.**, click on the **Insert** button on the top toolbar and scroll over to the right to **Header and Footer** and click once. Click on the **Custom Header** button. Put your name in the Left Section box and the date in the Right Section box and click **OK**. Then, click on the **<u>F</u>ile** button on the top toolbar and scroll down to **Print** and click once. Click the **OK** button to print 1 copy.

Microsoft Office 2003 or Older Versions

Procedure

1. Click on the **Excel** icon on the screen. If there is not a shortcut icon available, then using the mouse, click once on the **Start** button located in the lower left corner of the screen. Always use the left button on your mouse unless you are asked to use the right.

2. Scroll up to **Programs** and click once on it. A column to the right should appear. Scroll up or down the far right column to **Microsoft Excel** and click once on it. A data spread sheet should be visible.

3. Fill in the spreadsheet with the **data from your data table** into the spreadsheet. Arrange the information into columns and not rows.

4. Click on the bottom left box with your mouse and hold the button in as you *highlight* the columns only on your spreadsheet.

5. Click on the button in the second or third row down from the top of the screen that looks like a bar graph. It should say Chart Wizard in the box when you hold the mouse cursor above it. The Chart Wizard Function screen should be visible with the column chart type highlighted.

6. Scroll down to the button of the **XY-Scatter** and click once on it. For the chart sub-type, highlight the box that looks like a graph with points and lines. Then, click on the **next** button located at the bottom of the Chart Wizard screen.

7. On the data range you will need to click in the circle next to **columns** so that it is highlighted instead on the rows. Click on Series at the top and <u>remove series 1</u>. Click on the **next** button.

8. Click in the **Chart Title** box and write the title of the graph. It should be written as the dependent variable (y-axis) versus the independent variable (x-axis).

9. Click in the **Category** *(or Value)* **(X) axis** box and enter the title of the x-axis.

10. Click in the **Value** *(or Category)* **(Y) axis** box and enter the title of the y-axis.

11. When you have all three titles entered, and then click on the **legend** button at the top and click on the **Show Legend** button to remove the key.

12. Click on the **data labels** button and click **show** value, then click the **next** button.

13. The chart placement needs to be changed from sheet 1 to sheet 2. Click on the arrow down button on the right and highlight sheet 2. Then, click on the **finish** button. Your graph should appear on Sheet 2.

14. To print your graph, click anywhere on the graph to highlight it. *It is highlighted when there are 6 black dots showing: one in each of the four corners, one in the top center, and one in the bottom center.* **To add your name, class section, date, lab title, etc.**, click on the **<u>V</u>iew** button on the top toolbar and scroll down to **<u>H</u>eader and Footer** and click once. Click on the **<u>C</u>ustom Header** button. Put your name in the Left Section box and the date in the Right Section box and click **OK**. Then, click on the **<u>F</u>ile** button on the top toolbar and scroll down to **<u>P</u>rint** and click once. Click the **OK** button to print 1 copy.