LINEAR FITTING OF DATA USING EXCEL (office 2010)

1. ENTER DATA IN EXCEL (data entry, use of formulas and cell formatting will all be demonstrated in class).

2. Click on "page layout" tab and go to "HEADINGS" and make sure you check both the boxes "VIEW" and "PRINT" in order for the headings for the row and columns appear on your spreadsheet. You could also do the same for the gridlines for the spreadsheet. But I will show a better way in class for spreadsheet gridlines.

3. HIGHLIGHT THE DATA TO BE PLOTTED AND FITTED.

4. Go to the tab “INSERT” and choose “SCATTER” as the chart and click on the type that is located on the top left.(scatter with only markers)

5. When you click inside the graph, a new tab “CHART TOOLS” will appear. Below this tab, you will see the "DESIGN" tab. Choose that and go to "CHART LAYOUTS" and pick "LAYOUT 3" - that has fitted line, chart gridlines etc. Delte the legend entry on the right.

6. Click on the axis title for each axis and change them. Do not forget to include the units.

7. Now exit the "DESIGN" tab go to “LAYOUT” tab. Here you can click “CHART TITLE” and choose the option “ABOVE CHART”. Now you can enter a title for the chart.

8. Then rescale the axes, as follows:
   Go to “AXES” tab and choose “PRIMARY HORIZONTAL AXIS” for x-axis, click “MORE PRIMARY HORIZONTAL AXIS OPTIONS’.

9. Check ‘FIXED’ for min X value, max X value, major unit, minor unit and then type in the appropriate values for all of them.

10. Repeat steps 8 and 9 for Yaxis similarly. Remember you can right click on the axis and choose “format axis’ to rescale as well. But it is sometimes harder the to point to the axis accurately.

11. Right Click on the trend line and choose "FORMAT TRENDLINE"

12. Under the Trend line Options, make sure ‘linear’ is checked.

13. Now pay attention to the 3 boxes on the bottom of the ‘trend line options’:
(a) When you are fitting $y = mx$ form, check the box “SET INTERCEPT TO ZERO”. If using $Y=mX+b$, do not check this box.

(b) Always check the box ‘DISPLAY EQUATION ON CHART’.

14. Click ‘Print Preview’ and make sure

(a) both the graph and the data appear on the same page if the data chart is small enough (You will only see the graph and not the data, if you left the “handles on” the graph.)

(b) the graph is moved to a new page by right clicking on the graph and choosing "move chart" and choosing 'NEW SHEET"if the datapreadsheet is large,

(c) the chart is expanded as large as possible on the page and is within the page boundary.

(d) the gridlines for the spread sheet and the headings for the row and columns appear on your spreadsheet.

Finally verify with EXCEL CHECKLIST to make sure all expectations are met and then email the file to yourself for printing the same at a location convenient to you.