

Using Word to write a report

Introduction - writing full reports and papers

The next 4 pages are for reference, for the next time you have to write a formal report. Do read them then, for they will help to make your report look professional while others in the class are handing in amateur efforts. There is no exercise in this class using the next 4 pages.

Papers in scientific journals and even in less formal publications tend to follow a standard format. Unless you're given other instructions, writing your reports along standard lines will ensure they contain what readers expect to see. These next few pages outline how to go about it.

Report contents

Reports have certain key ingredients.

1. A **title**: as short as you can make it, but make sure it clearly reflects the contents and isn't obscure. Remember that most people reading a journal won't get past the title - if it doesn't interest them, they won't read the article.
2. A list of **authors**: their address and affiliations. e.g. M.Y.Self, Dept of Physics, University of Aberdeen, Aberdeen, AB24 3UE.
3. An **abstract**: The abstract is a short precis of the work - it should contain details of the work done, the main results and conclusions. If the abstract is too long, people won't bother to read it - you should aim at about 150 words unless the instructions given by the journal allow you more.
4. An **introduction**: The introduction should set the scene for the work, it should refer to previous work done in the literature on which your work builds, it should state what your investigation is about, what you are trying to prove, why you are trying to prove it and how the rest of your report will be laid out.
5. A **methods section**: The methods section should contain details of all of your methods - and no more. *It is not a results section!* You should state how your work was done, give details of equations used in your calculations, refer to previous work in the literature using similar equations and procedures.
6. A **results section**: *A results section is not a discussion!* Your results should state clearly and simply what happened, here you display your graphs, tables of values, etc. The text can be used as a vehicle, or commentary on these results. e.g. *"Figure 3 shows the amount of traffic flowing past the junction as a function of time, the main peaks occur between 7 am and 9 am and between 4 pm and 6 pm....."*.
7. A **discussion**: This section is where you begin to interpret your results, hypothesise on what they mean, where they may disagree or agree with other researchers.

8. A **conclusion**: In this final section you draw together all of your results and theories stating your main conclusions. e.g. *"Our results show that the traffic lights at this junction are not properly timed. Traffic on the eastbound A90 was observed to tail back to unacceptable levels, particularly in the evening rush hour....."*
9. A **bibliography**: This is a list of references to other work in the literature which you have referred to in text. There are various ways you can do this. For example in the text you can write - *".....tailbacks of more than 100 metres can cause levels of CO to build up to unacceptable levels for pedestrians [2]"*, **or** you can write: *".....Harding and Wolf (1989) found that tailbacks of more than 100 metres can cause levels of CO to build up to unacceptable levels for pedestrians"*. In the bibliography this would appear as:

References

- [1] Bains B.C. and Johnson F.K., "Congestion charging", *Traffic weekly*, (1995), Volume 24, No. 3, p.24.
 [2] Harding A and Wolf C. H. "CO levels in urban traffic", *The Lancet*, (1989), Volume 19, p. 234.
 [3] Jameson A.C. and

10. **Appendix**: Occasionally you will have data which for some reason may not fit into the main document, it may for example be a detailed calculation which would be distracting in the text, or it may be of the wrong media type. Under these circumstances, place this information at the back of the document and refer to it in the text as *".....in appendix A, the proof of the the traffic flow rate equations is given....."*
11. Finally, **Headers and Footers and Page numbering**: To complete a document, include headers or footers or both (using Word's menu *view* - then *Header and Footer*). The header on this page for example is "PX1512 Computing 2006 PX1512". Always remember to number your pages. I prefer page numbers in the centre of the footer but there is no rule about this.

The Layout

The layout of a document should be matched to the style of the publication where it will appear. Make sure you read the editorial instructions, or the course instructions if you are preparing course-work.

In default of specific instructions, use Word's *File – Page Setup* options to put the standard margins at 25 mm left and right and set the top and bottom margins to the same values. Make sure the *Paper* option is set to A4 and not something like *Letter* or *Legal*, which may well upset the printer and cause your job to stick in the print queue.

Don't use underlining for emphasis – it's old fashioned and harks back to the days of typewriters. Underlining these days is the default highlighting mechanism for web URLs. Avoid bold and italics together on the same words. Be sparing with the use of words in upper case.

The layout will look something like the following:

The title should be centered, in bold face text, usually 16 pt

Author: M.Y.Self, Dept of..... should also be centered – 12 pt.

Abstract

The abstract is normally in smaller text than the rest of the document - maybe 10 or 11 pt. It is usually in boldface or italic (not both) and justified (left and right) inset from the rest of the document.

1 Introduction *(The introduction header should be about 14 pt and bold face)*

The introduction should be written in 12 pt text. Paragraphs should be spaced by a clear line.

So that the next paragraph appears like this.

2 Methods *(The method title should again be 14 pt - be consistent about header size)*

In the method, equations should be centered, numbered and punctuated. So that they look like this.....

“The traffic equation

$$T = \sum \sqrt{a_i} \quad , \quad (1)$$

relates the flow of traffic T to the sum of the square root of the number of cars a, flowing in a certain period....." Equation numbers are right adjusted, by tabbing or adding spaces in front of them if necessary.

3 Results

Figures should be embedded into the text as neatly as possible (use the wrapping command) and should be clearly labelled with a figure caption and figure number.

Refer to the figure in the text by the figure number. Check that the axis labels and legends are easily legible and try to avoid using the "e" format as in 2e4 when you should write 2×10^4 (the \times is found in the symbol font).

4 Discussion

4.1 Subsections

You may need to break sections down into several sub-sections. Use the text size (12 pt) for sub-sections headers, but once again in bold face. Remember - whatever you do - be consistent in the use of type face and font size.

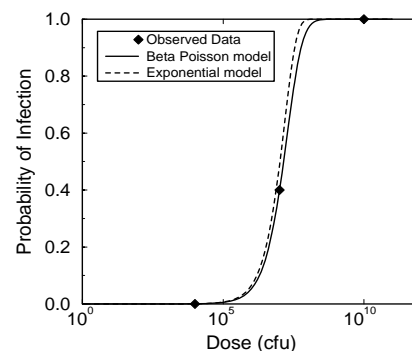


Figure 1: Use a text box for the caption - 12 pt for text

5 Conclusions

The comments above cover the general format that many reports finally appear in. At the drafting stage, some people like to use double spacing between lines to allow others to write comments, suggested amendments, etc. on the draft.

An alternative strategy that is good for electronic editing is to use Word's *Tools – Track Changes – Highlight Changes* options, whereupon edits will be shown in colour on the text and later on can be hidden by changing the options.

6 References

- [1]
- [2] Authors name here, "Title of paper", Name of publication, Year, Volume number if a journal, page numbers here
- [3] Johnson A.K. and Taylor G., "Traffic in Aberdeen", Journal of Traffic, (1997), Volume 23, p.234.
- [4]
- [5]