ENGINEERING 240 Style Guide

Formatting documents, along with organizing ideas and choosing content, is part of **Document Design**. There are many choices to be made while designing a document, and your main goal in making these decisions is to use your judgment to design a document for **readability**. People don't generally read technical writing for pleasure; it is up to the document designer to make the reading process as clear, useful, and efficient as possible. This Style Guide outlines the generally expected format for ENGR 240 assignments, and outlines some of the formatting decisions you will consider in the process of designing them them.

Document Types

Assignments should be submitted in either PDF or MS Word; these are industry standard. All assignments must conform to the following typical technical writing standards of document design:

Margins 1-1.5 inch (2.5-3 cm) margins

Body Text Font A standard *serif* font such as Times, Times New Roman, Cambria, etc is traditional; however, accessibility guidelines recommend using a simple *sans serif* font such as Calibri.

Heading Font A standard *sans serif* font such as Ariel or Calibri

Font Size 11-12 point *serif* font (12 is preferred) for body text

12-20 point *sans serif* font for headings

Paragraphing Generally technical writing is single spaced, the first line of paragraphs are **not** indented; an extra space is placed between paragraphs to indicate a new paragraph. Letters and Memos are always single spaced; reports may be single or 1.5 spaced (drafts are often 1.5 or double spaced to make room for comments). Paragraphs tend to be no longer than 10 lines long, and each line should avoid having more than 15 words.

Justify your **left**-hand margin only; leave a "ragged right" edge. This is considered much more "reader friendly" than fully justified margins.

If you really want to fully justify text, make sure that it is evenly spaced. Inconsistent gaps between words like this disorient and confuse readers.

Passive Space Surround text blocks, lists, headings, and graphics with enough "passive space" to make divisions clear and enhance readability. Avoid squeezing information together with insufficient white space.

Pagination The first page of your report, beginning with your **Introduction**, should be page 1, and all subsequent pages should be numbered in a consistent manner (bottom right). Any pages that come after your cover page and before the introduction (table of contents, list of tables and figures, executive summary, glossary, *etc*) should be numbered using small roman numerals (i, ii, iii).

NOTE: *For information on specific document elements such as title page, letter of transmittal, table of contents, etc., see "**Co-op Work Term Report Guidelines**."*

Headings

Every section of your report should have a descriptive heading that informs the reader of the content of that section, reveals your organization, and helps readers find specific information easily in your table of contents. These may be numbered if you like, using decimals (but do not use letters or Roman numerals). The following examples are in Arial 16, 13 and 12 point fonts; the last one is italicized and indented:

Level One Headings

First level headings should be the largest, and should be bolded. You might consider all caps, but avoid this if the headings are long.

Level Two Headings

Second level headings should be slightly smaller or in some way distinguished from first level headings. You might consider indenting blocks of text in this section.

Level Three Headings

Third level headings, if you use them should be further distinguished by smaller font size, italicizing, and/or indenting them and their text. And so on…

Every heading should have a block of text below it; avoid stacking one heading after another, or using only a heading to introduce a figure, table, or list. For more information on using headings correctly, see Chapter 3 in *Technical Writing Essentials*.

Headings and subheadings will appear in your table of contents automatically if you use the **Styles** function to create them and then auto-create a Table of Contents.

Lists

Lists help enhance the readability of your text, emphasize important ideas, and increase your use of white space, so use them when feasible, but do not over use them. Be sure to follow rules for the various kinds of lists described in Chapter 3 of *Technical Writing Essentials*. Use the **Paragraph** tools to create lists in Word. Avoid manually creating lists (with Return → Tab → hyphen) as this does not always work and can be difficult to edit.

Highlighting

There are various ways to highlight information, and all should be used sparingly. **Bold** and *italics* are most often used; coloured highlighting is rarely used. Only use ALL CAPS in headings, and do not underline for emphasis. Use exclamation marks with caution!!!

Tables and Figures

Tables and figures illustrate information in visual and easily understood formats. For example, **Figure 1** uses comic format to illustrate the importance of communication in the design process. If included in the body of your report, each figure and table must have a properly numbered and descriptive caption, be consistently formatted, and be referred to by number in the paragraph directly before or after the figure. If the table is very large, you can include it at the end of your report in an Appendix. Chapter 3 of *Technical Writing Essentials* provides more detail on integrating graphics, but here is a short summary.

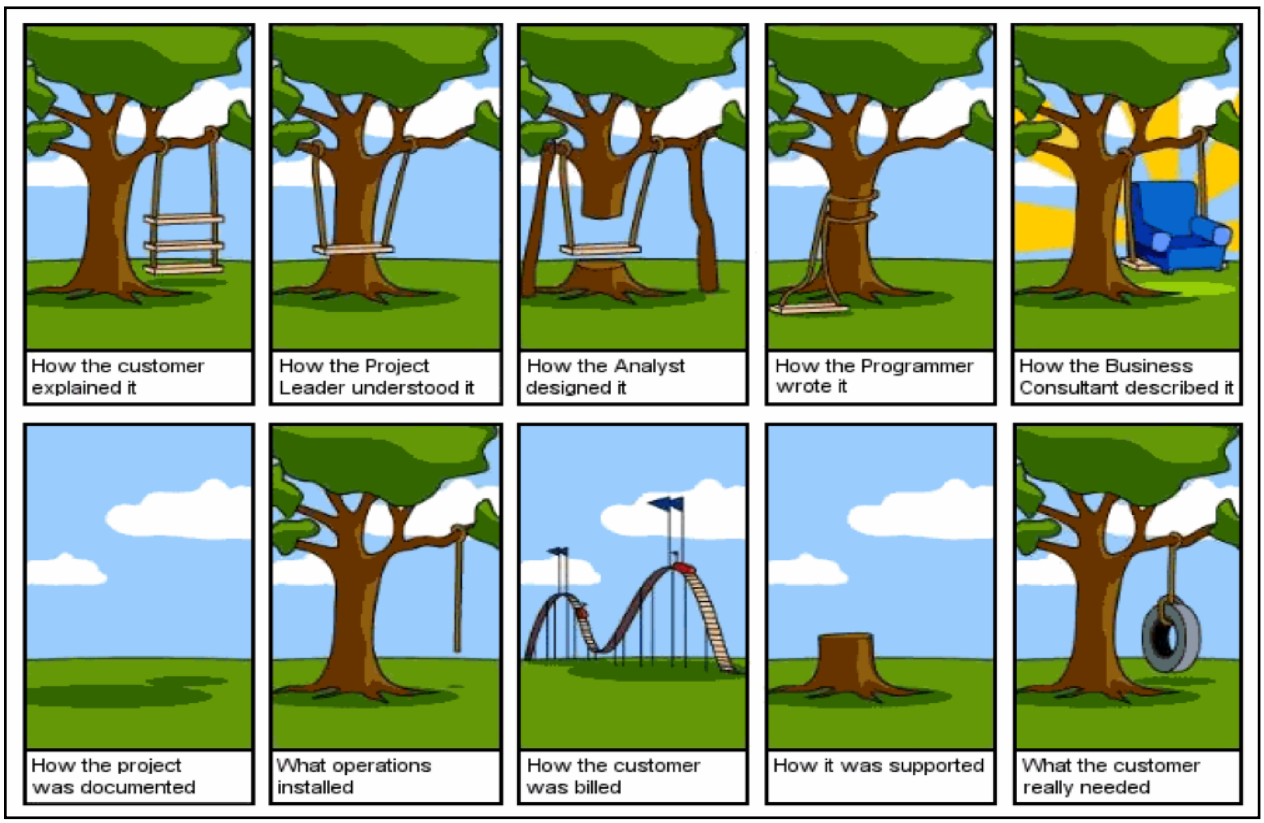

Figure 1: Design Cartoon illustrating the importance of communication in the design process [1]

Tables and **Figures** are captioned separately and consecutively using a numerical system and descriptive text. That is, Tables are captioned as Table 1, Table 2, Table 3, and Figures are captioned as Figure 1, Figure 2, Figure 3, as they appear in your report. Alternatively, you can label them sequentially within each section: Tables in section 2 can be labeled Table 2.1, Table 2.2, Table 2.3, *etc*. Figures in section 2 will be labeled likewise. Only use this latter option if there are a large number of tables and figures in your report (more than 1 per section). Be sure that each numbered caption includes a clear, concise description of the figure or table.

If you did not create the table or figure, or got the data from another source, you must give the source in a reference number in a square bracket at the end of the caption (see caption on Figure 1), or list the source in small italics under the figure. Never use a figure or table that you don't directly refer to in your text. You must at least mention the figure if you include it in your report, and ideally, you should discuss its importance. Avoid distorting figures.

Formatting the References Section

Use a first level heading (consistent with your other first level headings) to signal your **References** (or **Cited References**) section.

References should follow IEEE style (See *IEEE Style Guide* or Ch. 6 of *Technical Writing Essentials*), with the following additional specifications:

- Single space each entry, and leave an extra space between entries
- Leave one TAB [→] space between number and name at the beginning of each entry
- Use a hanging indent to align 2nd and subsequent lines so that they align with the first line of text in your reference (see example formatting below).

Cited References

[1] [→]H. Hart, *Engineering Communications*: Pearson Prentice Hall, 2009.

[2] A. B. Brown, P. D. Adams and J. A. Smith, "Improved procedure for error detection," *Can. J. of Elec. Engineers*, vol. 9, pp. 545-588, Nov. 1979.

[*note the hanging indent that aligns text, and the space between each entry]*

[3] J. A. Smith, "A preliminary analysis of internal waves in the Strait of Georgia," UVic Electrical Engineering Report 84-3, 5 pp., 1984.

[4] A.F. Hadwin, M. Oshige, M. Miller & P. Wild. “Examining student and instructor task perceptions in a complex engineering design task,” In Proc. *Sixth International Conference on Innovation and Practices in Engineering Design and Engineering Education*. McMasters University, Hamilton, ON, Canada, July 2009.

[5] A. Harnack and G. Kleppinger, "Beyond the MLA Handbook: Documenting Electronic Sources on the Internet." *Kairos*, [Online serial] vol. 1, no.2, (1996 Sum), Available at: http://english.ttu.edu.kairos/1.2/

*Note how much easier the references above are to read, especially if you want to find one particular source, than the poorly formatted **References** list below:*

References

[1] H. Hart, *Engineering Communications*: Pearson Prentice Hall, 2009..
[2] A. B. Brown, P. D. Adams and J. A. Smith, "Improved procedure for error detection," *Can. J. of Elec. Engineers*, vol. 9, pp. 545-588, Nov. 1979.
[3] J. A. Smith, "A preliminary analysis of internal waves in the Strait of Georgia," UVic Electrical Engineering Report 84-3, 5 pp., 1984.
[4] A.F. Hadwin, M. Oshige, M. Miller & P. Wild. “Examining student and instructor task perceptions in a complex engineering design task,” In Proc. *Sixth International Conference on Innovation and Practices in Engineering Design and Engineering Education*. McMasters University, Hamilton, ON, Canada, July 2009.
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