

# CIS400/401 General Writing Guidelines

Senior Design 2014-2015

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A professional writing style allows an author to effectively communicate his/her ideas to a reader. To help you in achieving this, we have authored this document. Whether the project proposal or final report – the tips provided herein should be applied to all senior design write-ups.

Broadly, all documents must be typeset in L<sup>A</sup>T<sub>E</sub>X and submitted in PDF format. A L<sup>A</sup>T<sub>E</sub>X style-file will be provided so student's can focus on content, not document appearance. All writings should have a formal tone – default to conventions found in academic journals.

## AUDIENCE & TONE

- Write your documents assuming the audience is composed of other CIS400/401 students. In other words, assume a basic CIS knowledge, but define field-specific terms. Do not swamp the reader with minute details when high-level intuition may be preferable.
- Realize the difference between personal and technical details. A 10,000 line algorithm is a very different challenge than “I’m taking a lot of classes this term.” The reader does not care about your personal journey; talk to a broader audience than just Insup and the TAs.
- We are looking for an objective technical paper, not a sales pitch. Defend your approach, but discuss its shortcomings. Do not think your grade is completely correlated with your ‘success.’

## PRONOUN USAGE

- First person singular pronouns like ‘I’ and ‘me’ should not be used. If you are describing something *anyone* can do, the first person can be avoided entirely. Rather than “I searched for...”, try, “A search revealed...”
- There are cases where the first person is required, for example, when an opinion is being expressed or a proprietary system discussed. First person *plural* pronouns should be used, even if your group has just one member. Example: “Our framework exhibits...”
- The second person pronoun ‘you’ is unprofessional. Replace statements like “you should look at the appendix for details...” with “readers should look...” or “one should look...”

## ORGANIZATION

- Document flow is critical. We will provide examples at each writing stage in an attempt to guide your organization. Motivate your research, ease readers into complex topics, and be sure to provide sufficient background data.
- Long blocks of text are not fun to read or write. Try using subheadings to increase organization and monotony. They might even make your report longer!
- A paper is a destination, not a journey. Do not describe development as a chronology. Present the final (or current) product. Rather than “we did *A* which did not work, then *B* which was inefficient, and finally arrived at *C*” your approach should be “This is *C*. *C* improves upon the efficiency of *B* by... Alternate implementation *A* was inappropriate because...”

## VERBS & SENTENCE STRUCTURE

- The present tense is preferred wherever possible. The past tense can, and often should, be eliminated. Using future-tense verbs to describe what is yet to be done is acceptable.
- Do not be afraid of writing short and terse sentences. Use of flowery, long, prepositional-phrase filled sentences only complicate the (presumably complex) technical detail you are presenting.
- Common ESL errors such as improper plurality, article usage, and verb agreement have been frequent in past editions of the course. Those who know they have such issues are advised to let a friend edit their paper or visit the Technical Communication Program (TCP, see below).

## BIBLIOGRAPHY & CITATIONS

- BibTeX will be used to generate bibliographies, reducing the headache associated with formatting rules. A sample usage can be seen in our example L<sup>A</sup>T<sub>E</sub>X document.
- Cite early. Cite often. We will set minimal reference requirements, but notice that the average academic publication has at least two times as many references as it does pages.
- This should not need repeating, but **don't plagiarize!**

## L<sup>A</sup>T<sub>E</sub>X Specific

- The creation of scalable, professional graphics is not always easy in L<sup>A</sup>T<sub>E</sub>X documents. Namely, the file format should be vector-based (\*.eps or \*.pdf) when possible and the graphics must look good in greyscale. GNUplot, XFig, Photoshop/GIMP, and ODraw are all useful tools.
- Depending on the editor you use, spell-check may not be a feature. If that is the case, make sure you spell-check your document via some means prior to turning it in.
- No one ever *knows* L<sup>A</sup>T<sub>E</sub>X in a complete sense. Be prepared to research the formatting you are trying to apply before asking the TAs.
- While a lot of you may be more comfortable with WYSIWYG editors (e.g., MS Word), we encourage you to **NOT** write your reports in a different environment and then migrate to L<sup>A</sup>T<sub>E</sub>X. This tends to result in an unexpectedly smaller length of the write-up, not to mention the great difficulties in moving figures/tables as well as students not really learning L<sup>A</sup>T<sub>E</sub>X.

## MISCELLANEA

- Examples, examples. There is no better way to explain a complicated process than by demonstration. They are often graphical in nature, too, and pictures are more fun than words!
- Impart intuition to your readers, do not bog them down with unnecessary detail. Replace code snippets in Java or C with pseudo-code. Instead of showing the reader a SQL statement, do the work for them, and tell them what it does. Bottom line: Implementation-level details that are not extremely novel probably are not even worth mentioning.
- Students having writing difficulty or those that want someone to review/edit their work prior to turn-in are advised to visit the SEAS Technical Communications Program (<http://www.seas.upenn.edu/~tcp/>)