

CHEATSHEET: HOW TO WRITE YOUR THESIS

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(Note: this sheet follows American English)

1. GENERAL WRITING RULES

(1) In a series of three or more terms with a single conjunction, use a comma after each term except the last. [Rule 2; 1]

- **Example:** "[...] red, white, or blue [...]"
- **Example:** "He opened the letter, read it, and made a note of its contents."

(2) Use a colon after an independent clause to introduce a list of particulars, an amplification, or an illustrative quotation. [Rule 7; 1]

- **Example:** "Your dedicated whittler requires: a knife, a piece of wood, and a back porch."
- **Example:** "Understanding is that penetrating quality of knowledge that grows from: theory, practice, conviction, assertion, error, and humiliation."

(3) The number of the subject determines the number of the verb. [Rule 9; 1]

- **Example:** "The walrus and the carpenter were walking close at hand."

(4) Make the paragraph the unit of composition.

[Rule 13; 1]

- **Hint:** "[...] a subject requires division into topics, each of which should be dealt with in a paragraph."
- **Hint:** "As a rule, single sentences should not be written or printed as paragraphs."
- **Hint:** "As a rule, begin each paragraph either with a sentence that suggests the topic or with a sentence that helps the transition. [...] This can sometimes be done by a mere word or phrase (again, therefore, for the same reason) in the first sentence."

(5) Use conjunctive adverbs like however, furthermore, moreover, subsequently, for example, e.g., i.e., etc. for improving the transition between your sentences.

- **Hint:** If you start a sentence with a conjunctive adverb, usually a comma follows.

- **Hint:** In the middle of a sentence, a conjunctive adverb is surrounded by commas.

- **Hint:** Do not start your sentences with conjunctions like while, but, and, etc.

- **Example:** "Strunk and Williams [1] provide a style guide. However, they do not focus on computer science."

- **Example:** "Strunk and Williams [1] provide several style guide rules, e.g., for punctuation."

(6) Use the active voice!!!! [Rule 14; 1]

- **Example:** "I shall always remember my first visit to Boston."

- **Wrong:** "My first visit to Boston will always be remembered by me."

- **Hint:** Always identify the acting person or role (i.e., the subject of the sentence). Examples are the software architect, the end user, the developer, and the tester. That also includes "I", "we", "this section/chapter", or the authors of cited papers (e.g., "Strunk and Williams [1] provide a style guide.").

- **Hint:** Use "I" instead of "we" only if you want to make explicit that it was only you.

- **Hint:** Place yourself in the background. Your thesis has a report character and should not heavily use "I" or "we".

(7) Put statements in positive form. [Rule 15; 1]

- **Example:** "He usually came late."

- **Wrong:** "He was not very often on time."

(8) Use the present tense (unless you have a good reason for not using it).

(9) Use articles like "a/an" and "the" where feasible!!!!

- **Hint:** "the" is used to refer to specific or particular nouns
- **Hint:** "a/an" is used to modify non-specific or non-particular nouns
- **Hint:** do not use "the" if you talk about things in general
- **Example:** "Women love it when men send them flowers!" (plural count nouns signal generality)
- **Example:** "I love listening to music." (non-count noun can also be used in general talking)

(10) Follow our guidelines regarding abstract, introduction, and conclusion in Section 2.

2. STRUCTURE GUIDELINES

ABSTRACT GUIDELINES

- Structure:
 1. **Problem Area:** Classify your thesis into commonly known software engineering areas.
 2. **Problem:** Which particular software engineering problem do you tackle and why?
 3. **Related Work:** Why has the problem been insufficiently solved before?
 4. **Solution Approach:** How do you address the problem?
 5. **Validation/Evaluation:** What evidence can you show that the problem has been addressed (e.g., by providing a comparison table for a problem domain that software engineers can use for reference)?
- 1 or 2 sentences per item. 1 sentence is preferred.

INTRODUCTION GUIDELINES

- 1 paragraph per item of the abstract. However, provide more details and do not just copy sentences from the abstract.
- Additionally, provide the following 2 paragraphs after the validation paragraph:
 6. **Contribution:** Make your own contribution(s) explicit ("The contribution of this thesis is...").
 7. **Overview:** Give an overview of your thesis per top-level section ("This thesis is structured as follows. Section 1 motivates / describes / presents / illustrates / demonstrates / summarizes / concludes / exemplifies / provides details on / discusses / ...")

CONCLUSION GUIDELINES

- Structure:
 1. **Summary:** Summarize key aspects and insights, i.e., do not repeat your thesis.
 2. **Own Opinion:** Provide an educated discussion showing your own opinion (here, you can use "I" as a subject).
 3. **Benefits:** Summarize who benefits from your results and how.
 4. **Future Work:** On the basis of your thesis, which follow-up activities do you suggest and why?

- 1-2 paragraphs per item of the conclusion
- We added the second item (Own Opinion) for our theses. In scientific papers, there is usually no dedicated section for that.

3. LATEX HINTS

- Use the **xcolor** package:

```
\usepackage[pdftex]{xcolor}
```
- Use the **todonotes** package:

```
\usepackage[colorinlistoftodos, textwidth=2.0cm]{todonotes}
\newcommand{\mytodo}[1]{\todo[inline, color=yellow!40]{Me: #1}}
```
- Use the right **quotation marks** (first “ and then ”, i.e., first the “66” form and then the “99” form):

```
\usepackage[babel=false, english=american]{csquotes}
\MakeOuterQuote{"}
```

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REFERENCES

[1] Strunk, William. *Elements of Style*. Ithaca, N.Y.: Priv. print. [Geneva, N.Y.: Press of W.P. Humphrey], 1918; Bartleby.com, 1999. www.bartleby.com/141/. [Date of Printout].