

Tips on Writing Papers

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Kinds of Papers

- Technical report
- Research paper
- Position paper
- Survey
- Proposal

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Some Obvious Recommendations

- Make sure you have something to say
- Try to make the paper interesting
- Tailor the paper to the expected audience
- Organize, organize, and organize

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Who Should Coauthor the Paper?

- Choose coauthors who:
 - Are good writers
 - Are the major participants in the work
 - Will bring attention to the paper
- The coauthors should not include anyone who did not participate in the work
 - Examples: Laboratory directors and supervisors

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How Should the Coauthors be Ordered?

- Two main approaches:
 - Order of importance (Common in science and engineering)
 - Alphabetical order (Common in computer science and mathematics)
- The relative contributions of the coauthors can be described in the text
- People who made minor contributions to the paper can be mentioned in an acknowledgments section

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Abstract

- Microversion of the paper
- One short, self-contained paragraph is best
- Should be very widely understandable

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Components of a Paper

- Title page
- Abstract
- Introduction
- MAIN BODY
- Conclusion
- Acknowledgments
- Footnotes or endnotes (optional)
- References
- Appendices (optional)

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Introduction

- State the purpose of the paper
- Describe the background for the paper
- Explain what knowledge will be assumed

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Conclusion

- Different possible forms:
 - Summary
 - Set of conclusions
 - Set of recommendations
- Use the paper as a springboard

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Components of a Proposal

- Title
- Objective
 - What you want to do
- Approach
 - How you will do it
- Impact
 - What benefits you expect will result
- Budget

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References

- Be careful to reference the work of others
- List references alphabetically
- Avoid inaccessible and unpublished references
- Examine all the references you list

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Some General Recommendations

- Be concise
- Be conservative in approach and format
- Make the final product look attractive
- Use good English appropriate for your audience

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Text

- Use a standard font for the main text
 - Use other fonts sparingly
 - Avoid using colored text
- A typical line should contain 10–15 words
- Use italics instead of underlining

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Writing Approaches

- Incremental development
 - Write pieces of the paper as the work is being done
- Successive refinement
 - First write an outline
 - Then expand the outline into a full paper
- Spiral approach
 - Write sections in the order 1, 2, 1, 2, 3, 1, 2, 3, 4, ...
- Seed approach
 - First write the most important or best understood part of the paper
 - Then expand this part into a full paper

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Linguistic Distinctions

Be careful when distinguishing between:

- Expressions and their values
356 (string) vs. 356 (number)
- Expressions with and without syntactic variables
 $x < 2$ (simple expression) vs. $A < B$ (schema)
- Inputted text and effect
(17 + 31) vs. $\rightarrow 48$
- Unisymbol variables and multisymbol variables
`val (name)` vs. `val` (3 variables)

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Final Tip

- Choose a simple, proven format for your paper
- But put most of your creativity into the content of your paper, not into the format

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