

Graduate Student  
Guide and Codes of conduct  
Dr. Henry Hexmoor  
Southern Illinois University  
Last Updated: January 27, 2012

## Meetings

1. If your question takes less than only a minute to answer, drop in my office or call. Otherwise, to see me for research, make an appointment by email. Be on time and do not forget your appointment time. If you have to cancel your appointment send an email.
2. When I make a commitment to work with you, I will spend time and energy to design and guide your activities. I expect you to reciprocate this commitment by following through with plans. If you must stop or switch projects tell me ahead of time.
3. Keep a research journal and document your research activities. When we meet, review the recent work with me before jumping into the complex issues so I understated the context of your problem.
4. If you take on a project, the most important thing to consider is to follow through with everything I say and finish your project. The aim with all projects if to complete some work that is worth publishing or including in grant proposals. Half a project is worthless. For this I expect you to be dependable and keep me informed all the way.
5. From time to time, I will identify proposal and publication opportunities. I expect you to contribute to writing papers and proposals. Remember the aim with these activities is to convince experts in your field and not just your local colleagues. Therefore, the standards are very high.
6. If I markup your writing please bring the marked up version back to be along with your updated version so I can compare.
7. Consider your working relationship with me as a potentially long term friendship. Be respectful. You can depend on me to support your research financially when it is possible. I am your academic friend in your thesis defense and professional meetings. You can count on me for reference letters.
8. You will be asked to attend conferences and other professional meetings. Think of this as an opportunity for networking. You should think about promoting and protecting our image. People you meet may help us in future professional capacities. We, the faculty, spend a great deal of time building professional image of our work and our university. You are expected to honor and preserve this image and to use that to build your image.

## Electronic Communications

1. Never include personal or emotionally-charged content in your communications unless you are comfortable having it appear on headline news.
2. Assume that all your emails and computer interactions are logged and stored on servers.

## Power-point Preparation and Presentation Guidelines

1. Use a font larger than 20 points.
2. Do not use more than 20-30 characters per line.
3. Make eye-contact with someone in rear of the room
4. Do not exceed 50 words per slide
5. Leave a margin on right and left sides of at least one inch.
6. Do not use more than 5-6 lines of text.
7. To check your slides, print them and make sure that you can read them unaided from a distance of at least 6 ft.
8. Do not read your slides; talk in general and use what is on your slides as highlights
10. Do not use math or incomprehensible figures in order to impress people
11. Do not talk down to audience
12. Avoid the temptation to say I have 5000 slides but can't show them due to time
13. Reveal sources of your material
14. If you want the audience to understand this work from the rest of your work use a
15. slide that shows the context of this work
16. However useless, thank every comment
17. Do not interpret questions as insults
18. State your thesis in the 1st slide or early on and don't expect your audience guess what your main point is.
20. State why this work is important
21. Be relevant to the theme of your gathering
22. Don't bore the audience; be useful
23. Use Figures and tables from your documents for visual aid in your slides

## Selecting a research topic for dissertation, thesis, and project

1. The topic you select for research should be something that has fascinated you for a long time. This way you will stay with the topic and will not be bored with it.
2. Make sure your topic is not a duplication of someone else's thesis or work. Search in the library and online for similar work. Keep notes on other work on 3x5 inch notecards, which will help you organize your material later.
3. Your topic should contribute something useful to other work, solve a real problem.
4. Avoid the temptation for doing a better job on existing work and showing off.
5. Keep in mind you must convince authorities in your field that your work is worthwhile.

## Thesis outline

1. Abstract: Provide a summary of entire thesis. State the problem, and summarize results and conclusions.
2. Introduction: Broadly introduce the literature and what your thesis will contribute. Write as if you are explaining a problem to an expert in the field. Why is the problem significant? Summarize your approach, results, and conclusions, and give outline of rest of thesis. You may provide citations but leave detailed comparisons to the background section.
3. Background /related work: What other specific published material relates to your work? What have other people done? Answer these questions in this section. This section will contain most of your citations to your references. Adequately explain everything that a technically literate reader needs to know to understand your work. Don't assume that only the experts will read the document.
4. Methods and Materials: Depending on the nature of your project, this section will vary. For software development, this is where you describe your algorithms and code, and software tools and techniques. How did you do the work?
5. Results: State results. If you have a lot of results, summarize them in tables or figures. No interpretation of results. State just the facts. What did you do?
6. Discussion: What is the justification for my conclusions? In this section, argue in support of your conclusions from your results. Analyze strengths and weaknesses of your work.
7. Conclusion: Summarize problem and results. State your conclusions.
8. Future Work: What would you do next?
9. References in a standard style such as the APA, ACM, or IEEE. Be sure your sources have archival value and can be independently found. Proving a reputable publisher adds credibility to your reference. Avoid online sources.
10. Appendices: Complete results, software source code.

## Paper writing guidelines

1. Avoid asking the reader any questions.
2. Do not have a dialogue with the reader.
3. Avoid common, informal parlance, and colloquial phrases.
4. Just because there is one published paper in a topic does not make the topic or paper as mainstream, accepted, or classical. Only a seasoned researcher can assess maturity of a field, a definition, and an approach.
5. Do not comment on your own thoughts, approach, or results. Do not congratulate yourself on a good job. E.g., it is apparent from our explanation that, this is the best discovery, we have been successful... Leave all judgments to the reader.
6. Avoid unfounded and excessive speculations in your paper.
7. Avoid soft assertions. E.g., we attempted, we believe, we tried, there might be a relationship... If you cannot be sure about your finding, do more work before writing a paper.
8. Avoid tongue and cheek examples.
9. Make sure your motivating points are convincing enough for the intended audience and provide convincing references.
10. Your introduction should tell a story. Think of yourself as a movie director with an opening shot for establishing a premise. E.g., open with an aerial shot of a town and life in it and then zoom in on your main characters.
11. With implementations and simulations give screen snapshots. However, do not clutter with too many figures.
12. If you are defining a new term, give a clear and concise definition. Separate your notation from your denotation.
13. Make sure your references give adequate information for retrieval by someone else.
14. Use a standard ACM, IEEE, AAAI, APA format. I prefer MLA or APA. These are far easier to read than engineering styles.
15. All your references should have a reputable publisher.
16. Avoid magazine and trade articles since they are typically not archival.
17. Provide acknowledgements for people and organizations who have helped you formulate or fund your work.
18. If you need help writing, go to the English Dept. Writing Center.
19. Use pictures, figures, and pseudo-code to illustrate your point. Each figure should have a detailed caption and be referred to in Text.
20. Always "Show", "Do not tell". E.g., instead of saying "it was the darkest night", say something like "it was so dark, I could not see my hand".
21. Avoid empty sections: Some text is needed between a section title and the first subsection of the section.
22. Capitalize names of sections, equations, figures, tables, like "Section 3.1". So, "next section", but "Section 6". Same goes for Item 2, Table 3, Assumption 4.
23. Use a comma after "but", "next", "here", "now", "then", adverbs etc., when starting a sentence. Then, your text will flow nicely.
24. Pluralize abbreviations using an "s". So, "MDPs", not "MDP's".
25. Avoid the dangling "this". So, "this example shows that" not "this shows that". This rule is intended to discourage this kind of behavior. One hint: Try changing "this" to "it"---usually, doing so will make it obvious that more context is needed.

26. Hyphenate noun phrases if they defy the natural right-to-left grouping in English. So, "relational reinforcement learning" is ok, but "reinforcement learning algorithm" should be "reinforcement-learning algorithm". Noun-phrase hyphenation is needed to group words in the beginning of a noun phrase, but not when there are only two words. [A nice example from The Colbert Report: "Nazi-treasure hunter" (someone seeking Nazi treasure) vs. "Nazi treasure hunter" (a Nazi who is seeking treasure).]
27. Use "which" only after a comma, because it is used to add descriptive features instead of defining features. So, "the ball, which I threw" should either be "the ball that I threw" (meaning, "of the many possible balls, I'm talking about the one that I threw") or "the ball, which I threw" (meaning, "that ball I'm talking about, you might also like to know that I threw it"). I try to follow this rule, which I learned from my advisor.
28. Don't use citations as nouns. Say "As explained by Kearns and Singh (2002)" or "As explained elsewhere (Kearns and Singh 2002)" instead of "As explained by (Kearns and Singh, 2002)".
29. Don't use latin abbreviations. That is, say "that is" instead of "i.e." or "for example" instead of "e.g.". I don't mind Latin if it's spelled out, for example "ad hoc". But, no one seems to use "exempli gratia" (e.g.) and "id est" (i.e.) because they look overly complicated, that is, there are perfectly good English substitutes.
30. Separate sentence-initial prepositional phrases by a comma. So, "From what I've heard, he solved it" instead of "From what I've heard he solved it". In case there is confusion, imagine trying to parse the sentence to mark where the prepositional phrase ends.
31. Use one- vs. two-word phrases correctly. These phrases should be one word when used as a noun and two words when used as a verb. For example, "We trade off time and energy." and "We strike a careful tradeoff between time and energy." Another one: "We set the cutoff to 0.7%, but had to cut off any runs that took too long." Another: "We print out the data and pick up the printout later from the pickup box." And: "I will write up my experiment and then send the writeup to my supervisor." Longer list: follow up, followup; trade off, tradeoff; speed up, speedup; cut off, cutoff; print out, printout; write up, writeup; set up, setup; pick up, pickup; in line, inline; make up, makeup.
32. Master "its" vs. "it's". "Its" is possessive and "it's" is a contraction for "it is". So, we say "It's unfortunate that its nose fell off." In my experience with this rule, it's common for people to forget its proper usage.
33. Don't begin a sentence with a variable or function name. It can help to put "The equation ..." in front of it first.

## Plagiarism is research misconduct

1. Plagiarism is copying someone else's documented words and phrases as if you are taking credit for them. You are free to paraphrase others, i.e., put things in your own words. You are free to liberally copy from your own previously documented words.
2. Generally avoid quoting others. If you must quote someone, give page number where the quoted words appear along with your citation.
3. If you wish to reproduce a documented figure, acquire author permission and state "reproduced by author's permission". Otherwise, you may use phrases like "adapted from" or "inspired by".