Goldwater hints

Goldwater essays, letters of recommendation, and personal statements

1. Essays

- **The most important** part of the Goldwater application process is an essay discussing “a significant problem in your field of study that is of particular interest to you and discuss an idea for research that could have significant impact on the problem.”

- You can write on anything, but it is generally more convincing if you write about something you have direct knowledge of—such as a project you have been working on.

- Essays have to be in double column format and fit within prescribed boundaries (3/4-inch margins, 2 pages maximum) and be in font no smaller than 11 point. They have to include a header on each page. Use the format: *Your Name* (starting at the left margin) [tab tab …] *Utah State University* (ending on the right margin)

- In preparing your essay, keep in mind that you are telling a story to a reader who is unlikely to be an expert in the area you are discussing. To help you tell your story effectively please begin each paragraph with a short title indicating what that paragraph will contain. For example, “*The initial temperature of the universe:* At the instant of the Big Bang, ….” Make sure each paragraph addresses only the topic of its title. This strategy will help you develop a logical, crisp, and compelling presentation. Before submitting your essay you might want to remove some of the paragraph titles, but, as a courtesy to your reader, each major section of your essay should have a title declaring what is in it.

- Picking an informative master title is essential; the title has to say what you are going to talk about. You might want to start with a provisional title. Refer to the title as you write. Ask yourself, “*Am I writing about what I have advertised?*” If you find you aren’t, stop it! Or, perhaps more usefully, change your title!

- An essay has a beginning, middle, and end.
  - **The beginning**
    - You have to state the problem in the first paragraph.
    - You should also convince the reader in the first paragraph why he/she should continue to read.
    - The beginning should be understandable to an intelligent, educated, but general reader without special training. A good guide is the beginning should be understandable to an educated layperson, such as a PhD in English.
    - It is essential to convey the practical impact of the problem.
    - If you have done something already with respect to this problem, say so in the first paragraph!
    - The beginning is hard and will require multiple iterations. In fact, it might best be done after you’ve written the middle part.
• The middle
  ▪ This is where the technical beef goes.
  ▪ Though professional scientists and engineers will read your essay, you can’t assume that they will know details of what you are talking about.
  ▪ Thus, this section has to be tutorial (i.e., you have to quickly “teach” the reader enough to get it), though its level can be geekier than the first paragraph.
  ▪ In this part of the essay, you should embed one or two pictures. Pictures take up room but are often better at communicating ideas than a lot of words.
  ▪ It is especially important to insert what you have actually already done with regards to this problem (if you can). If you’ve given a presentation, or better, you are a co-author on a publication, say it here.
  ▪ This section must include real references (i.e., real published literature, not Wikipedia). The format should be [#] or #, to save space (i.e., not the format [Name, 2007]).

• The end
  ▪ The last paragraph should be a statement about possible future work on this problem and possible consequences.
  ▪ You also need to leave space for your references.

• Minimize foofiness
  ▪ Foofiness is weaseling.
  ▪ Foofiness betrays ignorance and lack of confidence and credibility.
  ▪ Foofiness often produces unnecessary and vague words.
  ▪ Foofiness often leads to passivity.
    ▪ A weaseling and passive foofy example: “Enormous economic benefits are promised by nanotechnology.”
    ▪ Less foofy: “Smith, writing in the Wall Street Journal, estimates that nanotechnology will have a $100 billion impact on the world economy in five years [ref].

• Odds and ends
  ▪ Cut out cuteness.
  ▪ Do a “which hunt;” “which” means always true, “that” means this particular case.
  ▪ “May” means permission, “might” means a possibility.
  ▪ Bury “however” in the middle of a sentence; don’t use “however” as a punctuation mark.
  ▪ It’s “different from” not “different than.”
  ▪ It’s “myriad blah-blares” not “a myriad of blah-blares.”
  ▪ The word “data” is plural; it’s “these data are” not “this data is.”
o Don’t say “researchers are …” or “scientists can ….” Unless you actually know poll results, appealing to a group to imply greater authority is poor science and makes for a feeble argument. Say instead “research suggests …,” for example.

2. Letters

- Your letters of reference are almost as important as your essay.
- Think carefully about whom to ask to write for you. Not all writers are equally persuasive. (Tell me who you are considering: I might know them and how they write.)
- If you have done research, you must ask your research mentor to write.
- Generally, writers who only know you from your classwork are less able to write compellingly on your behalf.
- Good letters are enthusiastic AND specific. The more specific, the better. Thus, you will have to provide your writers with a CV (i.e., a resume), a transcript, and any other written material you can muster. (If you don’t already have a CV look at http://www.physics.usu.edu/peak/URpage/CV/CV.html.)
- When the time is right, I will provide your letter writers with “instructions” on how to construct strong letters of support.
- You must give your writers lots of lead-time (at least 3 weeks).
  o They all too frequently will wait until the last moment, but the earlier we get the letters the more time there will be for repairs, if necessary.
  o For this purpose, I want to receive the letters before we send your application material to Michelle Larson. I’ll give you a deadline for this later.

3. Personal statements

- Part of the application asks you to (a) “describe an activity or experience … important in clarifying … your motivation for a career in science” and (b) “describe any … personal information … you wish to share with the review committee” that might bear on “the diverse economic, ethnic, and occupational backgrounds of families.”
- Don’t blow these statements off. Think about what you might say that would be interesting and potentially different. This is a chance to set your application apart from the many others the committee will read.
- These two sections can be pivotal to your success.