

Minimum contents of a good research proposal

Kurt Frieauf - frieauf@kutztown.edu

- **Precisely what is the question you propose to address?** You need to clearly and directly communicate that your journey has a specific destination.
- **Why is your question important / relevant?** "Just basic research" generally doesn't cut it in modern science both because funding is limited and because research is viewed as developing part of a greater fabric of scientific understanding. How does your work relate to the big picture?
- **You are the expert best fit for solving this problem.** This is done by explaining the background setting of the problem in a way that both smoothly synthesizes previous work and develops those ideas into a direction. You may also be required to document the analytical equipment available to you (i.e., do you have the tools for the project?) Although this is essential for research proposals to other agencies, you will not have time to do this in your Kutztown University Undergraduate Research Committee proposal (I only include it for your future reference).
- **How will you go about solving this problem?** You need to demonstrate that you have a well planned method for resolving your question. Proposals that pose interesting questions, but not viable solutions are just idle musings.
- **What are some of the expected results?** Clearly, you don't know the results of your research before you perform the experiments, but you should have an idea of potential results of your experiments. Explain how you will interpret specific results (e.g., *I'm going to analyze the drinking water for lead contamination. If the concentration is over 15 ppb, then the water is contaminated, but if the concentration is less than 15 ppb, then it's suitable for drinking.*) Establishing the ground rules for interpretation of your results helps prevent bias in data collection and interpretation.
- **How will you disseminate the products of your research?** Funding agencies want to know that you'll publish and present your results to the rest of the world. Projects with great questions and excellent methodologies are little more than intellectual hobbies if the researcher doesn't publish the results.
- **How much is this going to cost?** Funders always want to know how the money will be spent. Include a table itemizing the costs of the project.

Finally, be concise. Reviewers are busy people and have a thick stack of proposals, so they appreciate direct language and minimal peripheral sidetracks.