Goldwater Scholarship Research Essay Instructions

The Research Essay is one area of the application where you will be able to demonstrate these characteristics. The strongest Research Essays students submit are based on a prior research project. Your essay should include a description of the issue or problem, a discussion of the research methodology, and discussion of your findings. When writing an essay on a past research experience, it is important that you clearly state what YOUR contributions to the project were and indicate what specific skills/expertise you developed. To demonstrate that you “think like a scientist," you might, as an example, describe future work your data suggests or work that still needs to be done to complete the current project.

If you have not been involved in a research project, you can develop your Research Essay on a "proposed" research project. In this case, you will want to put forward a possible research problem, discuss an idea for a research project that could have a significant impact on the issue or problem, describe the methodology that you would use and discuss anticipated results. Again, the reviewers will be reading your nomination materials attempting to determine the likelihood that you will pursue a research career. It is again in your interest to work to convince the reviewers that you have the characteristics that are needed to become a research scientist, mathematician or engineer.

Research Essay Formatting Guidelines: Research Essays should be single spaced and use 12 point Arial font. Margins should be 1 inch on all sides. Page length, including bibliographic information and references, must not exceed 3 pages. The essay must include your name and the name of your academic institution in the header at the top of each page. The student’s name and institution should be in (“inside”) the one inch margin. The Research Essay may be formatted in either one or two columns on a page. As appropriate, utilize graphs, tables, and figures in the essay to explain or clarify results. Figure and caption options may use 10 point Arial font. If mathematical equations are used in your Research Essay, LaTeX or other document preparation software may be used to properly format the equations.

Approximately the first page should be devoted to describing the project and essential methodology while the second page should be devoted to the results including the data collected and to an analysis of the results including the data and the significance of the findings.

If the research project is underway but not completed the first page of the essay should be similar to what is described above for a completed project. The second page should discuss the work that has been completed followed by what data have been collected and what will be collected. The final part should discuss how these data will be analyzed.

Nominees not having completed or initiated a research project should select a topic about which they are passionate and describe the project and the method of conducting the research. The scientific question to be addressed by the research should be clearly defined and the description of the research to be done should specify how the work will answer this question.

For additional instructions, which supersedes any information provided here, please visit: https://goldwater.scholarsapply.org/application-tips/

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1 Adapted from 2012 NAFA article by former Goldwater Foundation President W. Franklin (Frank) Gilmore and John A. Lanning