

Independent Research Project Proposal (due Thursday, March 20th)

In order to get funding to conduct research, scientists have to write grant proposals to various funding agencies (e.g., the National Science Foundation). These proposals outline the research the scientist would like to conduct and they make a case for why their research should be funded. Other expert scientists review the proposals and they give their opinion on the importance, novelty, and probability of success of the proposed work. Based on these recommendations, the funding agency then decides which research projects to support. Usually only a very small fraction of proposals receive funding.

Although you won't be getting any money to conduct your independent research project, it is important that you write a short proposal of what you plan to do. It is important for 3 reasons: (1) it helps you organize your thoughts and research plan; (2) it allows me and the GA to give you helpful feedback that will improve your research; and (3) it gives you experience with proposal writing, which is fundamental to scientific research.

Your proposal should be about 2-3 pages long and should include the sections listed below:

1. Proposal Title

2. Rationale (Background and Motivation for your study)

A paragraph or two introducing the general issue that you will examine, including at least *3 references to published work* on the subject, describing what is already known about it, and why your study is worthwhile.

3. Objectives

A few sentences describing the purpose of the proposed research, including the main hypothesis(es) that will be tested and the null hypothesis.

4. Proposed Research

A description of the research to be carried out including:

- a) experiments or observations to be conducted
- b) data to be collected
- c) methods to analyze results (i.e. statistical tests)
- d) resources needed
- e) proposed study sites
- f) timetable for your sampling, data analysis, and paper writing

5. References Cited