School of Biological Sciences
Format for Dissertation or Masters Thesis Research Proposal

National Institutes of Health (NIH) Style Proposal

Background:

NIH is the primary governmental funding agency for projects related to health sciences. Therefore, if you work in one of these fields it is important that you are familiar with the proposal format and guidelines. Since you are not actually submitting a proposal to NIH, we have modified the format slightly, while retaining the major components.

Review Criteria:
NIH assesses proposals based on five review criteria, detailed below. It is important that these criteria are addressed throughout your proposal rather than in separate sections.

1) Significance: Why is the proposed research important to human health?
2) Investigator(s): Are the investigators competent to conduct the proposed research?
3) Innovation: How will the new work add to the field of knowledge?
4) Approach: Is the proposed approach capable of addressing the stated hypotheses in an efficient manner?
5) Environment: Are the facilities and resources at the performance sites (e.g., University, laboratory settings) adequate for conducting the research?

Each criterion is scored from 1 (best) to 9 (worst) and is used to calculate the Priority Score. If this score equals or is less than the Payline, the grant will be funded. If it is slightly above the Payline, it *may* be funded at the discretion of the funding Institute.

Recommended Format:

Note: all page suggestions are single-spaced. The maximum length for a Masters proposal is 9 pages. The maximum length for a PhD proposal is 12 pages. These lengths do not include a 300 word abstract.

A) Research Plan

1) *Specific Aims*. (1 page) The purpose of the Specific Aims is to describe concisely and realistically what the proposed research is intended to accomplish. It should have a one paragraph narrative that describes the broad, long-term goals of the project and the problem the project will address. The narrative should be followed by one or more specific aims, each with a stated hypothesis.
2) *Research Strategy*. (Ph.D. 2-3 pages, M.S. 1-2 pages) The purpose of the research strategy section is to state the problem to be investigated and its significance, the rationale for the proposed research, the current state of knowledge relevant to the proposal and the potential contribution of this research to the problem(s) addressed.
3) *Innovation*. (1-2 pages) The purpose of this section is to show how the proposed research move the field forward, what new technological or intellectual

developments might come from the research, and if this work lead to new technologies or medicines.

4) *Approach*. (Ph.D. 4-6 pages, M.S. 2-4 pages) The approach should contain *Preliminary Results* and *Research Design and Methods* sections. The *Preliminary Results* section should contain experimental data already collected that is relevant to the proposal. Include narratives, figures and tables that demonstrates the project is ongoing. The *Research Design and Methods* section is a narrative partitioned by Aim that describes the experimental procedures, anticipated interpretations, and potential problems and resolutions of those problems. You must convince the reviewers that you have thought about unexpected outcomes and how you would address them. Include a table of the anticipated timeline for completion of each Aim.

B) **Assurances:** Use when appropriate for your research. Each should be enough to adequately describe their use.

1) Human subjects research
    a. See Supplemental Instructions for Preparing the Human Subjects Section of the Research Plan in the SF 424 or PHS 398 application to determine whether this section is required or your human subjects research is exempt.
    b. Provide a complete description of the proposed involvement of human subjects as it relates to the work outlined in the Research Plan section.
        i. If an exemption has been designated on the face page, enough detail still must be provided to allow the determination of the appropriateness of the exemption.
    c. You must provide sufficient information for reviewers to determine that the proposed research meets:
        i. the requirements of the DHHS regulations to protect human subjects from research risks (45 CFR Part 46);
        ii. NIH and NCI policy requirements for Data and Safety Monitoring for Clinical Trials, if applicable;
        iii. the ClinicalTrials.gov requirements, if applicable;
        iv. the requirements of NIH policies on inclusion of women, minorities, and children; and
        v. the requirements of NIH policy on reporting race and ethnicity data for subjects in clinical research.
    d. If the application involves the Inclusion of Women and Minorities, complete the Targeted/Planned Enrollment Table
    e. A justification is required if there is limited representation of children, women, and minorities
    f. Peer review and NIH program staff will consider this justification in their evaluation of your application
    g. Failure to address this issue will impose a bar, making any award until all the concerns raised by the integrated review group (IRG) have been resolved
2) Research on transplantation of human fetal tissue
3) Research Using Human Embryonic Stem Cells

4) Women and Minority Inclusion Policy
5) Inclusion of Children Policy
6) Vertebrate Animals
    a. Procedures, species, strains, sex, ages and number of animals to be used
    b. Justification for the species used
    c. Veterinary care
    d. Methods for alleviating pain, discomfort and distress, and justify not using analgesics
    e. Methods of euthanasia and endpoint euthanasia criteria
7) Recombinant DNA, including Human Gene Transfer Research
8) Select Agent Research

C) **References**. NIH uses number-order citation method.