

## FORMAT FOR RESEARCH PROPOSALS, PH.D. QUALIFYING EXAMS

The goal of each research proposal is to provide a substantial and original contribution to the field of genetics. The scope should be similar to that of a two-year postdoctoral grant proposal. If an alternate proposal is required, it should be in an area outside of those normally considered by the student's research group. The topic and approaches of the alternate proposal must be distinct from those of the thesis proposal. The student is to develop the alternate proposal independently, without input from the major professor. The student should discuss the alternate topic with the qualifying exam committee chair.

Written versions of both the thesis research proposal and the alternate research proposal are to be prepared by the student and distributed to the committee at least two weeks prior to the examination.

The format is that of an NIH postdoctoral fellowship proposal. Organize sections the research proposal to answer these questions: (1) What do you intend to do? (2) Why is the work important? (3) What have you already done? (4) How are you going to do the work? (5) References. DO NOT EXCEED 5 PAGES FOR SECTIONS 1-4.

**(1) Specific Aims:** What do you intend to do? (one-half page.)

Start with a paragraph containing a synopsis of the general problem addressed and clearly stating the hypothesis to be tested. This is necessary for the specific aims to make sense. Then, list the specific aims.

**(2) Background and Significance:** Why is the work important? (one page)

Briefly sketch the background to the proposal. Critically evaluate existing knowledge, and identify the gaps that the project is intended to fill. State concisely the importance of the proposed research by relating the specific aims to the broad, long-term objectives.

**(3) Preliminary Studies:** What has already been done? (one page).

Thesis research: describe the work you have already accomplished that is relevant to the proposal or the work in your lab that forms the rationale for your proposal. Alternate proposal: describe the work done by others that forms the rationale for the proposal.

**(4) Experimental Design:** How are you going to do the work? (2.5 pages).

List the aims again. Under each aim, explain the rationale for each experiment necessary to accomplish the aim, the experimental design, the interpretation of different types of results, and necessary methods (without intricate details). Include the means by which data will be collected, analyzed and interpreted. Describe any new methodology and its advantage over existing methodologies. Discuss the potential difficulties and limitations of the proposed procedures along with alternative approaches to achieve the aims. Provide a tentative sequence for the investigation. At the end, summarize how your experimental results will test your hypothesis.

**(5) References:** quote references in the text (Author[s], date) and then collect them in alphabetical order at the end. Each citation must include the names of all authors, title of the article, name of the book or journal, volume number, page numbers and year of publication.