

# Proposal Writing for Graduate Students

## FISH 521

### General Review Guidelines

The point of this exercise is twofold: (i) to provide feedback on your classmates' proposals, and (ii) to gain experience in evaluating the scientific writing of others. Your goal is to identify the strengths and weaknesses of the proposal you are reviewing and to provide some specific ideas for improvement. In return, you should receive constructive suggestions to improve your own proposal. First read the entire proposal without commenting--resist the temptation to provide specific comments straight away--then read it again and comment.

Normally, you would only think about the big picture - grammatical and stylistic shortcomings are only relevant if they compromise the comprehensibility of the proposal. However, for this class, also consider wording, sentence structure, paragraph structure, general layout and other editorial issues. Use the the editing facility in MS Word to comment on grammar and style, but make sure to also comment on big picture issues described below.

Following are some points to consider as you write your review. Note that you do not need to address each one in each review--use these as a guideline to focus your comments where you feel each proposal needs most attention.

- **Title:** Is it easy to understand the question under consideration and the methods that will be employed to address it from the title?
- **Topic Summary:** Does the summary provide background about the problem at hand? Is the methodological approach that will be taken laid out concisely? Is the potential significance of the results to be obtained stated? Are all important elements of proposed work mentioned in summary?
- **Introduction:** Is the broad significance of the topic introduced? Is there enough information referenced from primary sources to provide sufficient background? Is the motivation of the study at hand clear? Is relevant prior work described in appropriate detail?
- **Aims & Objectives:** Is there an explicit statement of aims?
- **Methods:** Are sampling methods clearly described? Is scope of work to be accomplished clearly laid out? Are appropriate controls described? Is methodology described in enough detail to assess its adequacy and suitability considering the aims and objectives? Do applicants appear to be proficient in their field?
- **Data analysis:** Is the data analysis adequately described? Is proposed analysis exhaustive or could additional analyses be carried out? Will the results of the data analysis address the objectives?
- **Interpretation:** Is the proposed interpretation possible given the data to be generated? Is interpretation related to initial objectives and broader background?

- **Broader significance:** Did the applicants consider the broader significance of their research?
- **Timeline:** Are critical stages in the proposed work delineated in the timeline? Is the timeline realistic?

## **Final Proposal Review Instructions**

1. Submit your final proposal (everything from title page, table of contents, and one-page summary, to budget and budget justification, including full literature cited), not to members of your own group, but to another group that will serve as a “review panel.”
3. Each panel member will be responsible for introducing and leading a detailed critique, discussion, and rating of one proposal.
4. Other panel members serving on a panel during a particular week are responsible for reading all assigned proposals prior to class, and contributing to discussion, rating, and dispersal of funds to each proposal during the review session.

# Proposal Review Criteria

**In making funding decisions and recommendations, reviewers and review panels should pay particular attention to two primary criteria:**

- 1. What is the intellectual merit of the proposed activity?** How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? How well qualified is the principal investigator (individual or various members of a team) to conduct the project? To what extent does the proposed activity suggest and explore creative and original concepts? How well conceived and organized is the proposed activity? Is there sufficient access to resources?
- 2. What are the broader impacts of the proposed activity?** How well does the activity advance discovery and understanding while promoting teaching, training, and learning? How well does the proposed activity broaden the participation of underrepresented groups (e.g., gender, ethnicity, disability, geographic, etc.)? To what extent will it enhance the infrastructure for research and education, such as facilities, instrumentation, networks, and partnerships? Will the results be disseminated broadly to enhance scientific and technological understanding? What may be the benefits of the proposed activity to society?

**Of secondary importance are the following:**

- 3. How does the proposed activity foster the integration of research and education?** One of the principal goals of granting agencies is to foster integration of research and education through the programs, projects, and activities it supports at academic and research institutions. These institutions provide abundant opportunities for individuals to concurrently assume responsibilities as researchers, educators, and students, and where all can engage in joint efforts that infuse education with the excitement of discovery and enrich research through the diversity of learning perspectives.
- 4. How does the proposed activity broaden opportunities and enhance diversity?** Broadening opportunities and enabling the participation of all citizens, women and men, underrepresented minorities, and persons with disabilities, are essential to the health and vitality of science. Many granting agencies are committed to this principle of diversity and deem it central to the programs, projects, and activities they consider and support.
- 5. Budget considerations.** Are the amounts requested in each budget category reasonable to get the job done? Is the P.I. asking for too much? or too little? Where and how much could the budget be cut without jeopardizing the success of the proposed work?

# Guidelines to Numerical Rating System for Grant Proposals

*Proposals are rated excellent to poor using the following five criteria: (1) intellectual merit, (2) broader impacts, (3) integration of research and education, (4) opportunities and enhancement of diversity, and (5) budget considerations. The final number provides an overall summary rating for the proposal.*

**EXCELLENT**  
**(14-16 points)** Highly meritorious and deserving of top priority for funding, an outstanding contribution to science. The PI and collaborators are creative and productive, the approach is well designed to achieve the stated objectives, the potential benefits are clearly demonstrated, and the budget is appropriate and essential for successful execution of the project. This rating should be reserved for truly excellent proposals.

**VERY GOOD**  
**(11-13 points)** Proposals considered superior, both for the intrinsic merit of the project and the ability or potential of the investigator. A useful contribution to science can reasonably be expected, the PI and collaborators are well qualified and competent, the approach is consistent with the best current practices, and the budget is adequately justified. Should be funded but clearly with secondary priority.

**GOOD**  
**(8-10 points)** Quality sufficiently high to warrant consideration for support, but definitely with tertiary priority. There is some prospect for scientific advance from the proposed activity, the participants are probably qualified but not the best for the project, the approach has some deficiencies but could be improved, and the budget could be better justified. When funds are scarce, such a proposal will seldom be funded.

**FAIR**  
**(5-7 points)** Unsupportable in its present form, the scientific contribution is questionable, there is no evidence that the participants are well qualified, the approach has serious defects, and the budget is not well justified. The proposal might merit consideration for support if resubmitted with major changes.

**POOR**  
**(2-4 points)** Unsupportable, no worthwhile scientific contribution is possible from this activity, the participants are incapable of completing the project successfully, the approach is seriously flawed. Do not support under any circumstances

## Proposal Ratings

Title of proposal	Amount requested	Criteria					Totals
		1	2	3	4	5	
An excellent proposal		5	5	2	2	2	16
A very good proposal		5	4	2	2	0	13
A good proposal		4	3	1	1	0	9
A fair proposal		3	3	0	0	0	6
A poor proposal		1	1	1	0	0	3
<b>Total amount requested</b>							
<b>Amount available (60%)</b>							