

## Biology 3A/3B Proposal Preparation Instructions

(Adapted from the National Science Foundation)

### A. THE PROPOSAL

The proposal should present the (1) title for the proposed work, (2) objectives and scientific, engineering, or educational significance of the proposed work; (3) hypothesis or hypotheses being tested, (4) suitability of the methods to be employed; (5) effect of the activity on the infrastructure of science (How well does the activity advance discovery and understanding?); and (6) amount of funding required. It should present the merits of the proposed project clearly and should be prepared with the care and thoroughness of a paper submitted for publication. Sufficient information should be provided so that reviewers will be able to evaluate the proposal in accordance with the criteria established herein.

The reviewers expect strict adherence to the rules of proper scholarship and attribution. The responsibility for proper attribution and citation rests with authors of a proposal; all parts of the proposal should be prepared with equal care for this concern. Serious failure to adhere to such standards can result in findings of research misconduct.

The Metric Conversion Act of 1975, as amended, and Executive Order 12770 of 1991 encourage Federal agencies to use the Metric System (SI) in procurement, grants and other business-related activities. Proposers are encouraged to use the Metric System of weights and measures in proposals.

### B. CONFORMANCE WITH INSTRUCTIONS FOR PROPOSAL PREPARATION

It is important that all proposals conform to the instructions provided. Conformance is required and will be strictly enforced unless a deviation has been approved. The Reviewers may return proposals that are not consistent with these instructions without review.

### C. FORMAT OF THE PROPOSAL

#### 1. Proposal Pagination Instructions

Proposers are advised to paginate a proposal by inserting a footer indicating "Page X of Y."

#### 2. Proposal Margin and Spacing Requirements

Proposals must have 2.5 cm margins at the top, bottom and on each side. The type size must be clear and readily legible, and conform to the following three requirements: 1) the height of the letters must not be smaller than 10 point; 2) type density must be no more than 15 characters per 2.5 cm; (for proportional spacing, the average for any representative section of text must not exceed 15 characters per 2.5 cm); and, 3) no more than 6 lines must be within a vertical space of 2.5 cm. The type size used throughout the proposal must conform to all three requirements. While line spacing (single-spaced, double-spaced, etc.) is at the discretion of the proposer, established page limits must be followed. While the guidelines specified above establish the **minimum** type size requirements, please be advised that readability is of paramount importance and should take precedence in selection of an appropriate font for use in the proposal.

### D. PROPOSAL CONTENTS

#### 1. Title

Title should be descriptive of proposed research project

#### 2. Information about principal investigators

Include a few sentences describing the educational background of each investigator

### 3. Project Summary

The proposal must contain a summary of the proposed activity that is no more than one page in length. It should not be an abstract of the proposal, but rather a self-contained description of the activity that would result if the proposal were accepted. The summary should be written in the third person and include a statement of objectives and methods to be employed. It must clearly address in separate statements (within the one-page summary): (1) the intellectual merit of the proposed activity; and (2) the broader impacts resulting from the proposed activity. It should be informative to other persons working in the same or related fields and, insofar as possible, understandable to a scientifically or technically literate lay reader. **Proposals that do not separately address both merit review criteria within the one-page Project Summary will be returned without review.**

### 4. Project Description

The Project Description should provide a clear statement of the work to be undertaken and must include objectives for the period of the proposed work, expected significance, and relation to the present state of knowledge in the field. The Project Description should outline the general plan of work, including the broad design of activities to be undertaken, and, where appropriate, provide a clear description of experimental methods, procedures and plans for preservation, documentation, and sharing of data, samples, physical collections, and other related research products. It must describe, as an integral part of the narrative, the broader impacts resulting from the proposed activities, addressing how the project will help advance discovery and understanding.

### 5. References Cited

At a minimum, five references are required, all of which must be cited in the body of your proposal. Each reference must include the names of all authors (in the same sequence in which they appear in the publication), the article and journal title, book title, volume number, page numbers, and year of publication. If the document is not a scientific journal article (e.g. reports from government agencies) and is available electronically, the website address should be identified. Proposers must be especially careful to follow accepted scholarly practices in providing citations for source materials relied upon when preparing any section of the proposal. While there is no established page limitation for the references, this section must include bibliographic citations only and must not be used to provide parenthetical information outside of the project description.

### 6. Budget

Each proposal must contain a budget for the cost of the project. Completion of the budget does not eliminate the need to document and justify the amounts required in each project. A budget justification of up to one page is authorized to provide the necessary justification and documentation as this may limit your experimental design. Please keep in mind that you and your lab partners will be the primary funding source for this project, not the school.