BMD RES 199 Course Proposal and Final Report Guidelines

Project Proposal

The Basics:

- Proposals must be typed.
- Your name, student ID # and email address should appear on the first page; name and student ID# should appear on every subsequent page.
- Your research sponsor's full name and email address should appear on the first page
- Pages should be numbered.
- Both you and your research sponsor must sign the proposal prior to submitting, indicating that you both understand/agree to what is expected of you and what will be accomplished in the course.

The Proposal:

- Your proposal should begin with a problem statement (a clear description of the larger problem within which your research project is situated).
- Your proposed project should be appropriate in scope for a 10-week project (a timeline must be included in the proposal).
- A description of the specifics of your 199 project should follow, which includes the particular research questions to be answered, the existing bodies of literature that will set your project into context, the methods that will be used to generate data, and how the data will be collected and subsequently analyzed. Your proposal must make clear the precise role that you, the student, will play in the lab including how much and what part of the data collection will be completed by you.
- The description of your project should be followed by an explanation of how this specific project contributes to the solution of the larger problem. In other words, what role might your project or its findings play in answering questions posed by the larger problem?
- The project that you and your research sponsor design should reasonably fit research and writing within the one-quarter framework imposed by Biomedical Research 199 and require no less than 12 hours per week in the lab.
- Your research sponsor should give you an estimate of approximately how many hours per week on your part (for the duration of one quarter) the proposed project is expected to involve. That estimate should be included in the project proposal.

REMINDER: Proposal and Contract Deadline – 1:00PM Thursday, of Week 2.

Please see quarterly enrollment document for Box upload link.

Final Report

Your final 199 paper should be written as if it were a scientific paper that you are submitting to a journal for publication. Therefore, we expect a careful and polished product for both your draft and final reports. **ALWAYS** carefully proofread your paper and follow the checklist before submitting your paper.

IMPORTANT: **It is a form of academic dishonesty to turn in material written by someone else in the lab for some other purpose (a section of a grant proposal, or an article in preparation) and given to you for use as a guide in preparing your research proposal or your paper. Both your proposal and your paper should be your own write-up, reflecting your understanding in your own words. If you do utilize such materials for information purposes, make sure to cite them appropriately in your paper.**

FORMAT:
- ☐ 1. Double space the entire document, including the references and the figure legends.
- ☐ 2. Do not leave widows (paragraphs or headings beginning on the last line of a page) or orphans (a page beginning with the last line of a paragraph).
- ☐ 3. Make your headings clear (underline, capitalized or make bold, etc.) and put extra spaces between major sections.

GENERAL CONTENT:
- ☐ 4. The paper must contain: TITLE PAGE, ABSTRACT, INTRODUCTION, MATERIALS AND METHODS, RESULTS DISUCSSIONS AND LITERATURE CITED (REFERENCES).
- ☐ 5. Make your paper understandable to a scientifically literate person, not only to experts in the particular area in which you are working. Make your paper general, not overly specialized. (This approach particularly applies to the introduction and discussion).
- ☐ 6. Carefully proofread your paper for typos, poor English, omissions from this checklist, etc. Utilize spell check and grammar check.

GENERAL PRACTICES:
- ☐ 7. Do not use future tense, especially in the introduction, materials and methods, and results.
- ☐ 8. Where possible use the past tense when referring to your work (after all, it is what you did) and usually the work of others. Use active verbs (i.e., I prepared recombinants, etc.).
- ☐ 9. Use standard abbreviations whenever possible; these are not followed by periods (e.g., min, hr, sec, gm, um, ul, etc.).
- ☐ 10. Do not use jargon (remember your audience); limit or carefully define any words not commonly used.
- ☐ 11. Give the definition of acronyms at the time of first usage.
- ☐ 12. Do not start sentences with a number; write the number out if you do so.

BY SECTIONS:
Title:
- ☐ 13. Title should be free of jargon and not overly specialized (remember you are writing for a highly-educated, but general audience).
- ☐ 14. **Title Page** should include the following information:
  - o The title of your paper
  - o Your name and student ID number
  - o The course number and the quarter
  - o Your research sponsor's full name, telephone extension and email address
  - o <u>Except</u> for the title page all pages should be numbered

Abstract:
- ☐ 15. The Abstract should be a short synopsis of your project, your methods, your results and your conclusions.

Introduction:

☐ 16. Introduction should include an overview of the problem and the point of the study, framed by a consideration of the appropriate literature, and a clear statement of your hypothesis and objectives.

Materials and Methods:

☐ 17. The Materials and Methods section should contain enough information about how you conducted your experiments, so that someone else could replicate them exactly.

☐ 18. Decimals should be preceded by a number, including a 0 (.35=incorrect; 0.35 correct).

Results:

☐ 19. The results section should only contain what you found (i.e. the data) and be free of interpretation.

☐ 20. The word "data" is a plural word; use it properly (singular form is "datum").

Discussion:

☐ 21. The Discussion should include your interpretation of your data, an integration of your findings with data and hypotheses found in the literature, and your conclusions. This is a very important section.

References:

☐ 22. Use the format found in the journal *Science* to cite literature in the text of your paper as well as to format your reference list.

☐ 23. List only (and all) references cited in the text of your paper in your reference list.

☐ 24. Indicate each journal with the appropriate abbreviation.

Figures and Tables:

☐ 25. Put all tables and figures at the end of the manuscript <u>after</u> the REFERENCES section.

☐ 26. Put each figure and/or table on a separate page.

☐ 27. Each figure and/or table must have a self-sufficient legend and the axes of the graphs in figures should be clearly labeled.

☐ 28. Tables should not be redundant with the figures. If they are redundant, figures are preferable in most situations, so omit the table.

The Draft and Final Report:

☐ 29. The initial draft of the 199 report should include a title, introduction, materials and methods, and references AND something in the results and discussion sections; the more complete the better.

☐ 30. The initial draft is due to your faculty sponsor by no later than 5:00 P.M. on the Wednesday of 8th week. This will allow time for your advisor to look over the paper and make any suggestions before the final due date. You do not need to submit a copy of the draft to the department.

☐ 31. Early in the quarter, you and your advisor must mutually arrange a date for you to turn in a copy of your final report to her/him, bearing in mind that he/she may have meetings out of town around finals time that you wouldn't be aware of. **Do not assume that you can turn in the final copy to your sponsor on the Biomedical Research deadline date! A final copy of the 199 paper is due to the minor via box link no later than 5pm on Friday of Finals Week.**

☐ 32. Along with the final report, you also must return the copy of the draft report with all original comments to your sponsor.

Regarding your GRADE, your advisor will be contacted and advised as to how to submit your grade.

REMINDER: Final Report Deadline – 5:00PM Friday, of Finals Week

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