

# Guidelines for Thesis Proposal in the Biology Masters Program

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## Thesis Proposal

A proposal is the foundation of your research. In it, you will identify a research topic, explain why it is interesting and important, review the relevant literature, list your specific hypotheses, outline your methods and give some potential outcomes of your research. Proposals have value in terms of focusing your subsequent research efforts, convincing your thesis committee that you have a suitable project, and often in terms of securing funding. Writing and submitting research proposals to funding agencies such as the National Science Foundation and the National Institutes of Health is the way science is funded. Writing your proposal is good practice for writing proposals to obtain funding and it sets the stage for how your research project will be implemented. The quality of the writing is also very important. Your thesis advisor will supply details as to the specific format that she/he wants you to follow in preparing your proposal.

1. State your research topic. This step will be done with your thesis advisor. Some advisors will have specific topics they want you to work on. Other advisors will expect you to have ideas of your own for a research topic.
2. Explain why your research topic is significant, interesting and important. This step involves getting the reader of your proposal excited about your research. Most individual research projects are parts of a larger research agenda that is exciting. It is important to tie your specific project to this larger agenda, such as finding a cure for diabetes or conserving native trout. There is serious competition for research dollars so it is the most exciting proposals that get the funding these days.
3. A literature review is important to place your work in context with a broader field of study. It will also demonstrate that your proposed work is novel and will advance the field forward. Your literature search should be comprehensive and include all relevant references. Key papers should be reviewed and discussed in detail. The number and format of references should be consistent with the number and format of references found in a journal from your field. Please specify the journal you selected as a model.
4. List your specific hypotheses. These should be clear and falsifiable.
5. Present your experimental designs, which will include your experimental treatments and your control treatments or your survey designs. In addition, outline your research methods and analyses in enough detail that your committee can understand what you will do. This step is important because the more your committee understands about what you are doing, the more helpful they can be.

6. Present your expected results. Projects that will be interesting no matter what results are found are compelling, so explain what the importance of each result would mean.

### **Evaluation of thesis proposal**

The student's committee will certify that each item has been completed in a satisfactory manner or that the student needs to revise one or more sections of the proposal.

1. Stated research topic.
2. Explained why research topic is significant.
3. Presented a relevant and complete literature review.
4. Listed specific hypotheses.
5. Presented experimental designs, methods, and analyses.
6. Listed expected results.
7. Writing quality suitable for a professional document

### **Timeline of thesis proposal dates**

A detailed outline of your thesis proposal is due to your committee members on the last day of classes of the fall semester of your first year.

A complete version of your thesis proposal is due to your committee by January 15<sup>th</sup>.

A meeting of your committee to consider your thesis proposal must be held by February 1<sup>st</sup>.

After your committee has reviewed your thesis, you will need to incorporate their comments in a revised proposal. The revision of your thesis proposal must be submitted to your committee, along with submission of your assistantship application for the second year, by February 8<sup>th</sup>.

The revised proposal must be reviewed and approved by your graduate committee. A Thesis Proposal, approved by your Graduate Advisory Committee, with a Thesis Proposal Cover Form (see link on [www.jmu.edu/biology/grad\\_current.shtml](http://www.jmu.edu/biology/grad_current.shtml)) must be submitted to the Graduate Director by February 15<sup>th</sup>. It will be necessary to contact each of your committee members to obtain their signatures. However, if any committee member has serious objections to your proposal, it will be necessary to meet with your committee to discuss the revised proposal. Once the Director's signature has been added to the cover page, the proposal will be passed on to the Department Head for review and final approval.