

# Departmental Honors Candidates, Spring Term 2007

To complete the Department of Biological Sciences Honors Program you must:

1. Give your research advisor a **draft** of your thesis by Monday March 12, 2007. (Students in external research labs must also give a draft to their dept. co-sponsor.) The Honors Committee suggests that you review an interim draft with your supervisor(s) before this!
2. Submit a **thesis** describing your research by 12 Noon, Wednesday April 4, 2007. (an electronic version and 6 hard copies)
3. Give a 30 min. **presentation** at an Honors Symposium, tentatively April 11/12.

The thesis will be evaluated by the Department of Biological Sciences Undergraduate Research Committee. The presentation will be attended by the same committee and open to the public.

## Program Requirements: Format of thesis and presentation.

### RESEARCH THESIS

This thesis represents at least a year, if not several years, of serious scientific endeavor on your part, and thus should be a substantive document. It should incorporate the background and rationale for your experiments, and what you think your results mean.

As part of your research you've read papers published in scientific journals. We would like your thesis to follow a similar format and contain the following components: *Title Page, Abstract, Introduction, Materials and Methods, Results, Discussion, References*. Each section is described below. These descriptions are embodied in the Thesis Template.

**PLEASE USE THE HONORS THESIS TEMPLATE ACCOMPANYING THIS MEMO**

#### SUBMISSION:

- 1) Hand in 7 HARD COPIES to A230 Langley, Advising Office
- 2) E-mail an ELECTRONIC COPY to [bioweb@pitt.edu](mailto:bioweb@pitt.edu)

- You can submit an *addendum* later if you have last minute results.
- You may be asked to make revisions after the presentations.

## RESEARCH THESIS COMPONENTS

**Title Page:** Title, Fellow's name, Sponsor's Name and Department (include both Departmental & External sponsors' info), Submission Date.

The title should be brief (two lines max.) but informative. You want people to read your title, get a sense of what your thesis is about, then decide they simply must read more.

**Abstract:** ~ 250 words and on a separate page.

Abstract will be made into a booklet for the symposium, so note the word limit.

After the title, this is the next criteria people use when deciding whether or not to read your thesis. The Abstract should briefly describe the question you investigated, the results you obtained and the importance and relevance of your findings. You should effectively summarize what you will present in your thesis so that the reader can walk away with an idea about what you did without having to read the entire thesis. The length should be.

**Introduction:** This section should outline your project/hypothesis, how you systematically approach answering your question, and what you actually found. You should include relevant background, with references, so that a reader who is unfamiliar with your experimental system can understand why your work is important. You should avoid the use of excessive jargon and always define any abbreviation or acronym the first time you use it.

**Materials and Methods:** This section should describe the materials you used (animals, bacterial strains, antibodies, enzymes, chemicals, special equipment or software, etc.) and how you performed your experiments. Someone who reads your thesis should be able to reproduce your results by following your materials and methods section. If you use a procedure that has been published previously, you should include the reference.

**Results:** This section should contain figures, tables, photographs and photocopies that summarize your results. You should present your results - this was the experiment, this was the result. This led to the next experiment, which gave us the next result, and so on. Your results should follow the same logical progression you used in setting up your experiments.

**Discussion:** This section should contain your interpretation of the results and a discussion of their significance. You should address how your results relate to your original question. You should also discuss areas of improvement (i.e. how you might do things differently knowing what you know now) and your ideas for future experiments.

**Acknowledgements:** If you wish to acknowledge anyone's assistance or contribution, you may set up an acknowledgments section between the discussion and references.

**References:** Choose a format that is used in a current journal where you have read articles. Remember to be consistent throughout your thesis.

## SYMPOSIUM PRESENTATION

For many students this is the most difficult requirement. Those who have presented to their lab group, either at the weekly meeting or as a practice talk, find this final public presentation much easier.

**Format:** Near the end of the term, the Department will sponsor an Undergraduate Research Symposium featuring the Departmental Honors Candidates. Each of you will be asked to give a brief talk (approximately 30 minutes, allowing a few minutes of that for questions) about your research project. Even if your data seem limited, it takes time to introduce your topic, define the historical perspective, outline your question/hypothesis, show your audience its relevance, explain the experimental system, present your results, discuss them, summarize your findings, then thank everyone for their help.

### DO's & DONT'S

#### DO:

- Use visual aids - make graphics & text that are not overly complicated to enhance your explanations.
- Practice, practice, practice - give your talk multiple times before your official presentation. Practice with labmates, your sponsor, other fellows... anyone who will listen, including your roommates, the dog or your dolls! Feedback from a variety of people is very helpful. - they let you know if something is unclear, make suggestions for improvements, and, will compliment you on what you did well!
- Watch your terminology - sometimes when you are nervous it is easier to make mistakes.

#### DON'T:

- Put your talk together at the last minute and expect it to go smoothly (and think that no one will notice).
- be too flip. If you do not take your work seriously, you cannot expect your audience to value your presentation.
- It's a good idea to do final run-throughs in the room where you will present. This will probably be A221 or A224 Langley Hall.

FINALLY: If there is anything we can help with, please don't hesitate to ask!

**Undergraduate Research Committee:** Jeffrey Lawrence (Chair), Stephen Tonsor, Karen Curto, James Pipas, Anthony Bledsoe, Lydia Daniels.

**Academic Advisors:** Christine Berliner, Dale Pasino