

Biosciences 587: Grant Proposal Writing
Spring 2007
SYLLABUS

FACULTY: Bonnie Bartel (bartel@rice.edu; x5602), Mike Stern (stern@rice.edu; x5351). Please use email to request an appointment whenever you would like individual feedback from faculty.

COURSE SUMMARY: In this course, each student will prepare a research proposal that will be presented both in writing, in a format similar to a post-doctoral fellowship application, and orally, as a seminar presentation to the class. In addition, students will perform "peer review" of another student's proposal. The skills learned in this course are directly relevant to those required for successful completion of the admission to candidacy exam, which students will complete on the topic of the thesis research in approximately one year. This course is intended to develop the following skills:

- Planning a research project
- Critically analyzing a research plan
- Describing your plans and analyses, both in writing and orally
- Revising and improving written and oral presentations
- Peer review of research plans

GRADING:

Specific aims draft	5%
Initial proposal presentation	5%
First draft	10%
Second draft	10%
Peer review	5%
Third draft	15%
Final oral presentation	20%
Final draft	25%
Class participation	5%

Late assignments: 10% per day deduction (on assignment) without documentation of illness or emergency.

Missed class meetings: 5% per session missed (on total available course points) without documentation of illness or emergency.

DISABILITY ACCOMMODATIONS:

Any student with a documented disability needing academic adjustments or accommodations is requested to speak with Dr. Bartel or Dr. Stern during the first two weeks of class. All discussions will remain confidential. Students with disabilities also will need to contact Disability Support Services in the Ley Student Center.

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SCHEDULE:**

December, 2006

Abstract distribution with tips on choosing a research subject

Friday, January 12, 1:30-3:00 pm, GRBH W100D

Course introduction

Three ranked abstract choices due at 5 pm; you will receive email notification of your faculty mentor assignment and the abstract to develop into a full proposal by Jan. 15

Discussion of schedule and grading

Discussion of organization and construction of various sections of a proposal (Please read the handouts before class so you can ask for clarification as needed)

Friday, January 19, 1:30-3:30 pm, GRBH W100D

Class discussion

Discussion of expectations for the first oral presentations (Jan. 26 and Feb. 2)

Discussion of expectations for Specific Aims draft (due on Jan. 26)

How to do a literature search

Instruction on using Endnote for bibliography management

Friday, January 26, 1:30-3:30 pm, GRBH W100D

Specific Aims draft due (5% final grade)

Oral presentation of research topics (5% final grade)

Hand in two copies of a draft of your Specific Aims page (1-2 p) at the beginning of class.

Seven students will give an 8-minute oral presentation to the class, describing the planned proposal, followed by a 5-minute period for questions and discussion. The room will be open at 1:15 pm to allow presentation loading on the computer.

If you are presenting, bring two copies of a printout of your slides (printed 3 slides per page); one for each instructor.

Friday, February 2, 1:30-3:30 pm, GRBH W100D

Oral presentation of research topics (5% final grade)

Seven students will give an 8-minute oral presentation to the class, describing the planned proposal, followed by a 5-minute period for questions and discussion. The room will be open at 1 pm to allow presentation loading on the computer.

If you are presenting, bring two copies of a printout of your slides (printed 3 slides per page); one for each instructor.

Monday, February 5 – Specific Aims drafts returned to students

Friday, February 9, 1:30-3:30 pm, GRBH W100D

Class discussion of Specific Aims draft

Friday, February 16 – no meeting

February 3-23 – Preparation of first draft of research proposals

This is not a long time. Reread the handout on writing a research proposal, particularly the part about the necessity of rewrites in preparing the first draft. As you develop your ideas, consult with the faculty about whether they are feasible and appropriate. Note that a wide range of abstracts are available, many of which will be outside the immediate area of expertise of the instructors. Therefore, you are encouraged to discuss your ideas informally with anyone. Test your plans by talking about them to other members of your lab. In addition, other individuals in the department whom you recognize could provide helpful input. As you develop your ideas, write them down in detail in the format of your proposal. This will provide the building blocks for your first draft. Note that a complete first draft will provide readers with more opportunities to make useful suggestions for improvement.

Friday, February 23 – no meeting, first drafts due at 2 pm (10% final grade)

Hand in the first draft to your faculty mentor. These will be graded for scientific content, organization, and effectiveness of presentation. These must be hard copies and not emailed.

Thursday, March 1st – First drafts returned to students

Friday, March 2nd, 1:30-3:30 pm, GRBH W100D

Meeting to discuss first drafts

We will have a general discussion about strong points and places that need improvement. Bring general questions about style, content, and strategy to this meeting. If you would like more specific feedback or need clarification of any comments on your proposal, email your faculty mentor to set up an individual appointment.

Fill out expertise survey to facilitate peer review assignments.

Friday, March 9 – no meeting, spring break

Friday, March 16 – 1:30-3:30 pm, GRBH W100D

Second draft due (10% final grade)

Meeting to discuss peer review procedure and expectations

Hand in two copies of the second draft in class. This draft should include all of the specific improvements suggested by your faculty mentor, general improvements inspired by class discussion, and many other improvements in content and presentation that become evident from intensive rereading and additional research on your topic.

One copy of the 2nd draft will be read by your faculty mentor, and one by an assigned peer reviewer: another member of the class who will provide peer review comments. The goal is to provide some experience in the review process. The peer reviewer will be given an evaluation

sheet to provide comments for the "reviewee" and should also make comments directly on the "reviewee's" second draft as appropriate.

Wednesday, March 21 - Peer reviewed proposals due to faculty by 5 pm (5% final grade)

Place the annotated second draft and completed evaluation sheet in the mailbox of the faculty mentor of the "reviewee". The faculty will evaluate the peer review and then pass these on to the reviewee (along with additional faculty comments on the second draft) by Thursday, March 23rd.

Friday, March 23rd, 1:30-3:30 pm, GRBH W100D

Peer review meeting

The faculty will lead a general discussion on the second drafts and peer review. Students then will meet in their reviewing pairs and go over their critiques of one another's proposals.

We will also discuss expectations for the oral presentations.

Friday, March 30 – no meeting, third drafts due to faculty at 5 pm (15% final grade)

Hand in two copies of the third draft. This draft should include all of the specific improvements suggested by your faculty mentor, improvements inspired by your peer reviewer, and many other improvements in content and presentation that become evident from intensive rereading and additional research on your topic.

One copy of the 3rd draft will be read by your faculty mentor, and one by a post doc or senior graduate student who may have some expertise in the proposed research area. This reviewer will provide comments directly on the your third draft as appropriate. Third drafts with outside reviewer and faculty comments will be returned to students by April 10.

March 30 – April 6 - Prepare oral presentation of project

Friday, April 6 – no meeting, midterm break. Oral presentation slides due at noon

Hand in two copies of a printout of your oral presentation slides (printed at 6 slides per page) to your faculty mentor. One is for your faculty mentor and one is for the post doc or senior graduate student providing comments on your written proposal. If you are out of town April 5 and 6, hand the printout in before you leave.

April 9 – April 13 – meet with outside reviewer to discuss third draft and slides

Email outside reviewer to set a time during this week to discuss possible improvements to proposal and slides. During this meeting, schedule a second meeting to give a practice talk by April 18 (for April 20 presentations) or by April 23 (for April 25 presentations).

April 9 - May 7. Prepare final written proposals

Include all of the improvements suggested by your faculty mentor, appropriate improvements suggested by your reviewers, insights gleaned from your oral presentation feedback, and additional improvements that you identify by intensive re-reading and additional research.

Friday, April 20, 1:30-4:00 pm, GRBH W100D

Oral presentations of research proposals (20% final grade)

Each student will give a 20-minute presentation followed by 10 minutes for questions. Time limits will be enforced. The specific presentation schedule will be provided later in the semester. After each presentation, all students will anonymously fill out forms critiquing the presentation; these will be provided to the speakers.

The room will be set up at 1 pm to allow presentations to be loaded on the computer.

Wednesday, April 25, 1:30-4:00 pm, GRBH W100D

Oral presentations of research proposals (20% final grade)

See above. The room will be set up at 1 pm to allow presentations to be loaded on the computer.

Thursday, April 26, noon, GRBH W100D

Meeting (with pizza) for course evaluations and discussion for course improvements

Wednesday, May 7

Final proposal due at 5 pm (25% final grade)

There will be no opportunities for revisions or rewriting after this date. This draft will be read and graded by your faculty mentor.