Tufts University, Friedman School of Nutrition Science and Policy

NUTR 0400 – Grant Writing
Summer 2016

Class Meetings: Tuesdays and Thursdays, 1-4 pm (May 31-June 30, 2016)
J118

Instructor(s): Sarah Booth (sarah.booth@tufts.edu/617 556-3231)
Team:
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Teaching Asst.: TBD
Office hours: TBD

Graduate Credits: 1.0 credit
Prerequisites: Enrolled in a doctoral program or by permission from course instructor.

Course Description: Students will receive didactic training on the principles of the grant writing process. Students will be required to write specific aims for a grant proposal on a topic of the instructor’s choosing. A class on writing skills will help students form a clear and concise series of specific aims. A class on available citation databases and reference management techniques will guide students on effective literature searches and management of citations. The entire class will critique each set of specific aims in an interactive session. Thereafter, the student, working with his/her advisor if possible, will devise and write a research grant proposal using the format described below. During this time lectures will focus on specific topics relevant to grant writing. All will be encouraged to seek one-on-one assistance from participating statisticians while formulating the initial experimental design. The final grant will then be distributed to the entire class with advance time for the advisor, course instructors, and students to have time to read each grant, give feedback, and prepare questions. During the final weeks of the course, each student will defend their grant proposal in front of the class. Each student will be expected to explain to the class the formulated research question and the specific aims, and respond to questions and comments from the advisor, course instructors and other students. Throughout the course, case studies on responsible ethical conduct in research, including responsible peer-review, will be discussed to facilitate the student's’ development of ethical reasoning in research.

Course Objectives:
1. To describe the main elements and purpose of a research grant proposal.
2. To identify a research topic representing gaps in scientific knowledge, and complete a written research grant proposal on that topic.
3. To verbally present the grant proposal and respond to constructive criticism and queries during the presentation.
4. To develop skills in constructive peer-review as evidenced by participation in all class sessions.
Texts or Materials: There is no required textbook. Trunk will be used for the class. Resource material and presentations will be posted there. All submitted projects will be uploaded to Trunk and be available to the entire class (students and faculty) for review.

Academic Conduct: Each student is responsible for upholding the highest standards of academic integrity, as specified in the Friedman School’s Policies and Procedures manual (http://nutrition.tufts.edu/student/documents) and Tufts University policies (http://students.tufts.edu/student-affairs/student-life-policies/academic-integrity-policy). It is the responsibility of each student to understand and comply with these standards, as violations will be sanctioned by penalties ranging from failure on an assignment and the course to dismissal from the school.

Classroom Conduct: Attendance is not mandatory but highly recommended given that a satisfactory grade for this course is partially based on group discussion.

Assessment and Grading: This course is for 1.0 credit. Successful completion of this course results in a satisfactory grade on your transcript. A passing grade is defined as discussion in group meetings, meeting each of the submission deadlines, satisfactory completion and submission of the grant proposal, and adequate defense of the grant proposal. Failure to submit and defend a grant proposal results in an unsatisfactory grade.

Assignments and Submission Instructions: Assignments received after their deadline will not be accepted unless extension is approved in advance. Students who are unable to complete an assignment exam on time for any reason should notify the instructor by email prior to the deadline, with a brief explanation for why the extension is needed.

Accommodation of Disabilities: Tufts University is committed to providing equal access and support to all students through the provision of reasonable accommodations so that each student may access their curricula and achieve their personal and academic potential. If you have a disability that requires reasonable accommodations please contact the Friedman School Assistant Dean of Student Affairs at 617-636-6719 to make arrangements for determination of appropriate accommodations. Please be aware that accommodations cannot be enacted retroactively, making timeliness a critical aspect for their provision.
## Course Schedule

*This schedule is subject to modification at the instructor’s discretion.*

<table>
<thead>
<tr>
<th>Class #</th>
<th>Topic</th>
<th>Lecturer</th>
<th>Assignments Due</th>
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</table>
| #1      | Grant writing overview  
Developing specific aims  
Ethics Case 1 – plagiarism in grants | Booth           |                                           |
| May 31  |                                                                        |                |                                           |
| #2      | Writing techniques                                                   | Gantt          | Specific Aims 1 (group exercise)          |
| June 2  |                                                                        |                |                                           |
| #3      | Review and critique of specific aims 1  
Developing a proposal checklist  
Ethics Case 2 – data ownership | Booth/Faherty  | Revised Specific Aims 1 (group exercise)  |
| June 7  |                                                                        |                |                                           |
| #4      | Review and critique of specific aims 2                               | Booth/Advisors | Specific Aims 2 (individual project)       |
| June 9  |                                                                        |                |                                           |
| #5      | Literature searches and citation management  
Ethics Case 3 – Following protocol vs obligation to mentor | LaVertu/Booth  |                                           |
| June 14 |                                                                        |                |                                           |
| #6      | Research Strategies – open discussion  
Ethical considerations of human subjects and animal use | Booth/Houser/ Barger | Outline of approach (individual project) |
| June 16 |                                                                        |                |                                           |
| #7      | Timelines and budgets  
Overview of qualifying exam                                           | Booth/Faherty/ Saltzman |                                           |
| June 21 |                                                                        |                |                                           |
| #8      | Open discussion/ Q&A                                                  | Team           | Group 1 & 2 grants due                    |
| June 23 |                                                                        |                |                                           |
| #9      | Grant presentation and critique- group 1                              | Team/Advisors invited | Read group 1 grants                      |
| June 28 |                                                                        |                |                                           |
| #10     | Grant presentation and critique- group 2                              | Team/Advisors invited | Read group 2 grants                      |
| June 30 |                                                                        |                |                                           |
Course Topics, Learning Objectives and Assignments

* This schedule is subject to modification at the instructor’s discretion.

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Class #1: Overview of Grant Writing (Booth)

Learning objectives:
Upon completion of this week, students will be able to:
1) Describe the overall goals of a grant proposal
2) Construct a specific aim
3) Appreciate the need to maintain confidentiality with peer review

Preparation for class: None

Assignment for this week:

Written Assignment 1 – To develop specific aims for a proposal that would address a research question to be developed by course instructor. Please develop a working hypothesis and specific aims for a project that would fulfill this research agenda. Maximum of 1 page, double spaced. Must be posted on TRUNK prior to class #2. Resources will be posted on Trunk to provide tips on developing a working hypothesis and specific aims.

Class #2: Writing Techniques (Gantt)

Learning objectives:
Upon completion of this week, students will be able to:
1) Develop strategies for communicating better information in less space
2) Write a concise and clear set of specific aims

Preparation for class: Post assignment #1 on Trunk prior to class

Assignment for this week: Based on your learning from this class, please revise your specific aims developed for Assignment #1. Must be posted on TRUNK prior to class #3. Be prepared to describe and defend specific aims from Assignment #1 to peers in an interactive session.

Class #3: Proposal Planning (Booth/Faherty)

Learning objectives:
Upon completion of this week, students will be able to:
1) Articulate the steps required to initiate a grant proposal
2) Develop a proposal checklist
3) Appreciate the tension between independence of inquiry and cooperation in scientific research

Preparation for class:
1. Read assignment #1 of peers and be prepared to critique in class
2. Initiate planning of your grant proposal for the course. Please begin to develop specific aims for a proposal that would address a research question that is relevant to your
intended thesis. You are encouraged to work with your advisor. If you do not have a thesis advisor, you need to identify an interested faculty member who is willing to mentor you for the duration of this course. If you do not have a thesis topic, it is recommended that you choose a research topic that is of interest and can potentially develop into a thesis.

Assignments for this week:

Written Assignment 2 – Working with your advisor if possible, please develop a first draft of your proposal checklist, which includes the elements required to complete the grant proposal. Must be posted on TRUNK prior to class #4. Resources will be posted on Trunk to provide tips on developing a checklist.

Written Assignment 3 - Develop specific aims for a proposal that would address a research question that is relevant to your intended thesis. The assignment requires a maximum of 1 page, double spaced document stating the working hypothesis and specific aims. Be prepared to discuss in class. Must be posted on TRUNK prior to class #4. Resources will be posted on Trunk to provide tips on developing a working hypothesis and specific aims.

Class #: 4 Specific Aims and Peer Review (Booth/Advisors)

Learning objectives:
Upon completion of this week, students will be able to:
1. Conduct peer-review critique
2. Develop specific aims for a doctoral thesis proposal
3. Describe different study design approaches to nutrition research

Preparation for class:
1. Post assignment #2 on Trunk prior to class
2. Be prepared to describe and defend specific aims to peers in an interactive session
3. Invite advisor to class (optional)

Assignment for this week: Refine your specific aims based on feedback in class, and continue working on your proposal with your advisor. Refine your proposal checklist where appropriate. You are encouraged to consult with team members during development of your proposal.

Class #: 5 Managing Literature Searches and Citations (LaVertu/Booth)

Learning objectives:
Upon completion of this week, students will be able to:
1. Conduct effective and comprehensive literature searches for nutrition-related topics
2. Manage their literature citations
3. Understand their obligation to conduct research in an ethical and well-reasoned manner

Preparation for class: Conduct a literature search for developing your proposal.

Assignment for this week: Develop an outline for your proposal in accordance with the current FSNSP template for the written component of the doctoral qualifying exam (page 28,
FSNSP PolProc, v August, 2015). If you would prefer to use a different format, you must obtain prior permission from course instructor. You are encouraged to consult with team members during development of your proposal outline. Be prepared to discuss your outline in Class #6.

**Class #: 6 Research Strategies (Booth/Hauser/Barger)**

**Learning objectives:**
Upon completion of this week, students will be able to:
1. Develop the research strategy for a grant proposal
2. Describe the ethical consideration of human subjects and animal use in a research proposal

**Preparation for class:** Be prepared to discuss your outline in Class #6.

**Assignment for this week:** Continue working on your proposal with your advisor. Refine your proposal checklist where appropriate. You are encouraged to consult with team members during development of your proposal.

**Class #: 7 Timelines, Budgets and Qualifying Exams (Booth/Faherty/Saltzman)**

**Learning objectives:**
Upon completion of this week, students will be able to:
1. Develop a realistic timeline for a grant proposal
2. Develop a budget for a grant proposal
3. Describe the expectations and format of the FSNSP doctoral qualifying exam

**Preparation for class:** None

**Assignment for this week:** Continue working on your proposal with your advisor. Refine your proposal checklist where appropriate. You are encouraged to consult with team members during development of your proposal.

**Class #: 8 Open Discussion and Questions & Answers (Team)**

**Learning objectives:**
Upon completion of this week, students will be able to:
1. Submit a grant proposal for peer review.

**Assignment for this week:** Submit a grant proposal. The format of the grant proposal should be in accordance with the current FSNSP template for the written component of the doctoral qualifying exam (page 28, FSNSP PolProc, v August, 2015). If you would prefer to use a different format, you must obtain prior permission from course instructor. Be prepared to describe and defend your proposal to your peers in class. Must be posted on TRUNK four calendar days prior to class #9. If assigned to group one, please invite your advisor to join for your presentation in class #9. If assigned to group two, please invite your advisor to join for your presentation in class #10.
Class #: 9 Grant Presentations and Critiques (Team/Advisors)

Learning objectives:
Upon completion of this week, students will be able to:
1. Develop a well-reasoned grant proposal (those in group #1)
2. Deliver a succinct and well-reasoned oral presentation (those in group #1)
3. Critique a grant proposal

Preparation for class:
If in group #1, be prepared to describe and defend your proposal to your peers in class.

If in group #2, please read all proposals posted on TRUNK by members of group #1.
Be prepared to critique in a collegial, interactive session.

Class #: 10 Grant Presentations and Critiques (Team/Advisors)

Learning objectives:
Upon completion of this week, students will be able to:
1. Develop a well-reasoned grant proposal (those in group #2)
2. Deliver a succinct and well-reasoned oral presentation (those in group #2)
3. Critique a grant proposal

Preparation for class:
If in group #2, be prepared to describe and defend your proposal to your peers in class.

If in group #1, please read all proposals posted on TRUNK by members of group #1.
Be prepared to critique in a collegial, interactive session.

Assignment for this week:
None