Tufts University, Friedman School of Nutrition Science and Policy

NUTR 0400 – Grant Writing
Summer 2019

Class Meetings: Wednesdays, 9:30 am-12:30 pm (May 22-July 24, 2019)
J118 / HNRCA Mezzanine Conference Room / J155 (please see schedule below)

Instructor(s): Sarah Booth (Sarah.Booth@tufts.edu / 617-556-3231)
Team: Kathryn Barger (Kathryn.Barger@tufts.edu)
Amy Gantt (Amy.Gantt@tufts.edu)

Teaching Asst.: Jessie Ellis (Jessica.Ellis@tufts.edu / 617-636-3151 / HNRCA room 720)
Yan Bai (Yan.Bai@tufts.edu / 857-753-3544)

Office hours: By appointment.

Graduate Credits: 3.0 semester hour units
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. Designated time outside of the classroom is required for each student to write a grant. 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. Canvas will be used for the class. Resource material and presentations will be posted there. All submitted projects will be uploaded to Canvas 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 3.0 semester hour units. 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 an extension is approved in advance. Students who are unable to complete an assignment 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.

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<thead>
<tr>
<th>Class #</th>
<th>Location</th>
<th>Topic</th>
<th>Lecturer</th>
<th>Assignments due at the beginning of class</th>
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<tr>
<td>#1</td>
<td>Jaharis 118</td>
<td>Grant writing overview Developing specific aims</td>
<td>Booth</td>
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<tr>
<td>May 22</td>
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<tr>
<td>#2</td>
<td>Jaharis 118</td>
<td>Writing techniques Ethics Case 1 – plagiarism in grants</td>
<td>Gantt/Booth</td>
<td>Specific Aims 1 (exercise)</td>
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<td>May 29</td>
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<tr>
<td>#3</td>
<td>HNRCA Mezz Conf Room</td>
<td>Review hypothesis and specific aims Developing a proposal checklist Timelines</td>
<td>Booth</td>
<td>Revised Specific Aims 1 (exercise)</td>
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<td>June 5</td>
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<td>#4</td>
<td>Jaharis 118</td>
<td>Review and critique of specific aims 2 Conceptual Frameworks</td>
<td>Booth/Barger/Bai/Ellis</td>
<td>Specific Aims 2 (individual project)</td>
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<tr>
<td>#5</td>
<td>Jaharis 118</td>
<td>Review and critique of revised specific aims 2</td>
<td>Booth/Barger/Bai</td>
<td>Revised Specific Aims 2 (individual project)</td>
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<td>#6</td>
<td>Jaharis 118</td>
<td>Research Strategies – open discussion Ethics Case 2 – data ownership Use of Data</td>
<td>Booth/Barger/Bai</td>
<td>Outline of approach (individual project)</td>
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<td>July 3</td>
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<td>No class</td>
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<td>#7</td>
<td>Jaharis 155</td>
<td>Budgets Ethical considerations of human subjects and animal use Ethics Case 3 – Following protocol vs obligation to mentor Research Strategies – open discussion</td>
<td>Booth</td>
<td>Revised outline of approach (individual project)</td>
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<td>July 10</td>
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<td>#8</td>
<td>Jaharis 155</td>
<td>Finding a grant opportunity Overview of qualifying exam</td>
<td>Bai/Ellis/guest/Saltzman</td>
<td>Final grants due</td>
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<td>July 17</td>
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<td>#9</td>
<td>Jaharis 155</td>
<td>Grant presentation and critique</td>
<td>All Team/Advisors invited</td>
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<tr>
<td>July 24</td>
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Course Topics, Learning Objectives and Assignments

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Wednesday, May 22, 2019

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 Canvas prior to class #2. Resources will be posted on Canvas to provide tips on developing a working hypothesis and specific aims.

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Wednesday, May 29, 2019

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 Canvas prior to class

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

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Wednesday, June 5, 2019

Class #3: Proposal Planning (Booth)

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 complete with timelines  
   3) Appreciate the tension between independence of inquiry and cooperation in scientific research
Preparation for class:
1. Read specific aims 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. This is for your use only and will not be posted on Canvas. Resources will be posted on Canvas 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 Canvas prior to class #4. Resources will be posted on Canvas to provide tips on developing a working hypothesis and specific aims.

Wednesday, June 12, 2019
Class #4: Specific Aims and Peer Review (Booth/Barger)

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 specific aims on Canvas 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 through 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.

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Wednesday, June 19, 2019
Class #5: Review and critique of revised Specific Aims 2 (Booth/Barger)

Learning objectives:
Upon completion of this week, students will be able to:
1. Develop the research strategy for a grant proposal

Preparation for class: Conduct a literature search for developing your proposal, be prepared to discuss your revised Specific Aims in Class #5.

Written Assignment #4 - Develop an outline for your proposal in accordance with the current FSNSP template for the written component of the doctoral qualifying exam (page 36 (Policy), or page 39 (Science), FSNSP PolProc, v FY 2018-2019). 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. Please post on Canvas and be prepared to discuss your outline in Class #6.

Refine your proposal checklist where appropriate. You are encouraged to consult with team members during development of your proposal.

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Wednesday, June 26, 2019
Class #6: Research Strategies and Ethical Considerations (Booth/Barger)

Learning objectives:
Upon completion of this week, students will be able to:
1. Understand their obligation to conduct research in an ethical and well-reasoned manner
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: Revise your outline. Review the outline of your peers and be prepared to discuss in class.

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Wednesday, July 10, 2019
Class #7: Timelines and Budgets (Booth)

Learning objectives:
Upon completion of this week, students will be able to:
1. Develop a budget for a grant proposal

Preparation for class:
None

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 36 (Policy), or page 39 (Science), FSNSP PolProc, v FY 2018-2019). Please note that there are different formats depending on the academic program in which you are enrolled. 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 Canvas four business days prior to class #9.

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Wednesday, July 17, 2019
Class #8: Finding a Grant Opportunity, Overview of Qualifying Exam (Saltzman)

Learning objectives:
Upon completion of this week, students will be able to:
   1. Describe the expectations and format of the FSNSP doctoral qualifying exam

Preparation for class:
   None

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Wednesday, July 24, 2019
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
   2. Deliver a succinct and well-reasoned oral presentation
   3. Critique a grant proposal

Preparation for class: Be prepared to describe and defend your proposal to your peers in class. Please read all proposals posted on Canvas. Be prepared to critique in a collegial, interactive session.