

HBEH 860: RESEARCH PROPOSAL DEVELOPMENT

**Department of Health Behavior
UNC Gillings School of Global Public Health**

Spring 2015

Meeting Time: Fridays, 9:05 am – 11:55 am
Location Rosenau 332

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Teaching Objectives:

HBEH 860, Research Proposal Development, is a required course for doctoral students in Health Behavior. HBEH 860 is a pragmatic skills-building course that aims to give you a mentored, guided structure for developing a significant research project and lead you through the steps of assembling your first major grant application through an important NIH mechanism: the predoctoral National Research Service Award (NRSA) (F31). The course also enhances your readiness to undertake the doctoral dissertation.

A number of students are able to use the work they create in this course toward a full NRSA application to submit to the NIH in the summer or fall following the course, and/or to have their proposal serve as the basis for a dissertation or grant application for another funding agency.

Given these larger purposes, the primary teaching objectives of HBEH 860 are to develop or increase your skills and ability to:

- (1) Integrate detailed components of research methods (e.g., research questions and hypotheses; constructs, variables and relations; measurement reliability and validity; sampling; study design; and statistical analyses) and apply them to both the development of an original research study and the preparation of a research grant proposal;
- (2) Develop and write an NIH career development award (in this case a predoctoral NRSA);
- (3) Participate effectively both as an applicant to, and as a reviewer for, NIH and other funding agencies; and
- (4) Map out steps towards the larger arc of your research career.

Ground Rules for Choosing a Topic:

Upon completion of the course, students will have gained experience in the most difficult phases of research, namely: transforming a research interest into a testable research question and developing a sound and feasible study design to address that question. The experience is intended to enhance students' readiness to undergo the dissertation research process and it exposes them to a typical expectation of most doctoral level jobs: the preparation of research grant proposals. To ensure that students receive the fullest experience possible through HBEH 860, proposals for this course must fit within the following parameters:

- (1) This course is strongly oriented toward the development of proposals for quantitative studies, but studies may also include a qualitative component;
- (2) Proposed studies must be explanatory (tests of associations) or evaluation studies, not descriptive studies;
- (3) Proposals can be primary data collection or secondary analysis of data; and
- (4) If the proposal is a primary data collection project, it needs to be feasible to accomplish with only salary support for yourself (which is what the NRSA provides), or you need to demonstrate that there is additional funding available to support the data collection.

Course Description:

NRSA as a Focal Point of HBEH 860. Through the course of the semester, each student will develop key parts of the NRSA application using the most recent guidelines available at <http://grants.nih.gov/grants/guide/pa-files/PA-14-147.html>. We have chosen the NRSA as the appropriate grant mechanism for you to work with because:

- (1) Many students in our department already submit NRSAs and could therefore benefit from formal training on this mechanism;
- (2) Many of the NRSA requirements are transferable to other dissertation award mechanisms; and
- (3) The career development section of the NRSA is relevant to writing a mentored career development award (e.g., a K01), the mechanism that early investigators are most likely to “cut their teeth on” during their first academic or research appointments.

Your Research Advisor. Last fall you were asked to invite a member of the HBEH faculty to serve as your Research Advisor for this course. This individual should have agreed to work with you at defined points in the semester to help guide you and offer feedback throughout the proposal writing process. Your Research Advisor will be asked to meet with you three times during the semester to review and discuss: (1) Specific Aims; (2) the Research Strategy; and (3) a completed proposal. Please note that Research Advisors are encouraged to provide structured feedback but not to rewrite or edit your proposal sections. It is your responsibility to set up meetings with your Research Advisor. Planning these meetings in advance is recommended. If you are having difficulty with your Research Advisor, please notify the course instructors.

Throughout the proposal-writing process, you will submit drafts of sections of the application to receive feedback from the course instructors, your classmates, and your Research Advisor. In addition to traditional instructor-led classes, many class sessions will feature student and faculty panels, guest speakers, in-class work on proposal sections, and student presentations.

Honor Code:

All students are expected to abide by the Honor Code for the University of North Carolina at Chapel Hill (<https://studentconduct.unc.edu/>). Special instructions regarding academic dishonesty may be found in the *Instrument of Student Judicial Governance*, Section II.B. (<http://instrument.unc.edu/>). Please speak with one of the instructors if you have any questions about these policies and procedures.

Please note, to help support your learning in this course, many faculty, alumni, and fellow students have contributed examples of research proposals they have written in the past. We remind you that these documents constitute their intellectual property and, as such, we ask that you not share copies of these research proposals (or any excerpts from them) with any other individual, and that you treat these documents with the full respect and academic integrity described in UNC's Honor Code. Thank you.

Readings and Materials:

There are no required textbooks for this course. All reading materials and supplemental materials will be available on Sakai.

Assignments and Grading:

Please submit all assignments (graded and non-graded) in the "Assignments" section of Sakai. The major assignment for the course is a completed NRSA research proposal of 7 pages. Additional required elements of the NRSA include a description of the goals for fellowship training and career (1 page) and a description of research experience (2 pages).

Students will be expected to prepare and submit drafts of different sections of the NRSA application at various points in the semester. Even though these assignments are not given a formal grade, students are expected to submit these in a timely fashion; inability to maintain deadlines for non-graded assignments will be reflected in the final grade (see below) and will limit your classmates', instructors', and Research Advisors' ability to provide feedback to you in a timely fashion.

Non-graded Assignments Due Dates:

Non-Graded Assignment	Due Date	Description
Draft Student Research Ideas	Due on Sakai by 9:00 AM on Friday, 1/15	<p>Brief summary of a proposed research idea (~1 paragraph): Describe the health problem; make a statement or two about what is known and what is not known related to your focus; state why it would be important to fill that gap; state an overall study objective that links to the gap. Students who are undecided at this point may develop two research ideas (1 paragraph each).</p> <p>Students will be placed into one of four small Working Groups. We will try to create these based on similar topical/methodological interests.</p>

Non-Graded Assignment	Due Date	Description
Final Student Research Ideas	Due on Sakai and to workgroup by 5:00 PM on Tuesday, 1/26	<p>Brief summary of a proposed research idea (~1 page): Describe the health problem; make a statement or two about what is known and what is not known related to your focus; state why it would be important to fill that gap; state an overall study objective that links to the gap; state 4 or 5 possible research questions, specifying the specific variables and the level of measurement of each, that address gaps in the research area. Provide a few possible specific aims that would capture the research questions and a brief description of the dataset to be used or methods of data collection.</p> <p>In class on Jan. 29, students and the instructors will provide feedback on the clarity, significance, and feasibility of the ideas; suggestions for improvement; match between the data set/methods and the aims; and next steps.</p>
Brief Research Ideas Peer Reviewer Form	Due on Sakai and to workgroup by 9:00 AM on Friday, 1/29	Complete one Brief Research Ideas Peer Reviewer Form for each person in your group.
Draft Specific Aims due to your Workgroup	Due on Sakai and to workgroup by 5:00 PM on Tuesday, 2/9	A rough draft of the Specific Aims section (1 page max; must include 2 or 3 aims). The document should address the problem and research gap being addressed, the study aims, the reason why the aims are important to address, and an explanation of how your study is significant in light of existing studies. Aims will be discussed in workgroups on February 12.
Peer Reviewer Specific Aims Feedback Form	Due on Sakai and to workgroup by 9:00 AM on Friday, 2/12	Complete one Peer Reviewer Specific Aims Feedback form for each person in your group.
Refined Specific Aims	Due on Sakai by 5:00 PM on Monday, 2/22	Submit refined Specific Aims section to the Instructors.
Statistics Form	Due on Sakai by 5:00 PM on Friday, 3/4	Submit Statistics form to Instructors.
“Final” Specific Aims	Due on Sakai and to Faculty Research Advisor by 5:00 PM on Friday, 3/11	Submit “final” Specific Aims to the Faculty Research Advisor.
Non-Graded Assignment	Due Date	Description

Draft Research Strategy (Significance and Approach)	Due on Sakai and to workgroup by 5:00 PM on Wednesday, 3/23	The Research Strategy should include the study significance, aims and hypotheses, and literature justifying/ supporting them, including the theoretical base and methods for reaching the aims (study design, sample size justification, data source/data collection, measures, statistical analysis for each aim, and statement of feasibility) (6 pages max). Please attach the most recent version of your Specific Aims section to this document. In class on April 1, your workgroup will provide feedback on the submitted document and the Instructors will provide feedback during the individual meetings (scheduled for the week of April 8).
Peer Reviewer Research Strategy Feedback Form	Due on Sakai and to workgroup member by 9:00 AM on Friday, 4/1	Complete Peer Reviewer Research Strategy (Significance & Approach) Feedback Form for one person in your group, as assigned by TA.
Revised Research Strategy (Significance and Approach)	Due on Sakai and to Faculty Research Advisor by 5:00 PM on Monday, 4/11	Submit your revised Research Strategy, including the most recent Specific Aims section, to your Faculty Research Advisor.
Draft Abstract	Due on Sakai and to workgroup by 5:00 PM on Wednesday, 4/13	Send copy of your Abstract draft to your workgroup members.

Graded Assignments:

Graded Assignment	Due Date
Class participation: <ul style="list-style-type: none"> • Come prepared for classes and engage with class discussions and guest speakers • Turning in interim non-graded assignments on due dates • Works-in-Progress presentation – Specific Aims 	Multiple dates Multiple dates Friday, 2/19, in class
Graded Assignment	Due Date
Goals for Fellowship Training and Career (1 page)	Friday, 4/29 by 5:00 PM
Doctoral Dissertation and Other Research Experience (2 pages)	Friday, 4/29 by 5:00 PM
Research Proposal – Abstract (no longer than 30 lines), Specific Aims (1 page), Research Strategy (6 pages), References (no limit)	Friday, 4/29 by 5:00 PM

Course Schedule:

Date	Topics to be Covered	Class Preparation	Assignments Due
1-15	<p>Overview of the course</p> <p>Student topics and Faculty Research Advisors</p> <p>Overview of NRSA</p> <p>Grid for secondary data analysis</p>	<p>Read: Sandler RS. Writing Clinical Research Grant Applications. <i>Inflammatory Bowel Diseases</i>, 2002, 8(3):196-200).</p> <p>Read: Inouye SK, Fiellin DA. An Evidence-Based Guide to Writing Grant Proposals for Clinical Research. <i>Annals of Internal Medicine</i>, 2005, 142, 4.</p> <p>Skim: posted NRSA samples</p> <p>The SF424 (R&R) for Individual Fellowships Guide is posted on Sakai for your use throughout the course.</p>	<p>Draft Student Research Idea(s) due on Sakai prior to start of class.</p> <p>Start reading relevant literature in your topic area to verify gaps and brainstorm research questions.</p>

1-22	<p>NRSA grantsmanship</p> <p>Specific Aims</p> <p>Brief Peer Reviewer Guide</p> <p>Break</p> <p>Goals for Fellowship Training and Career</p> <p>Connection between Research and Training plans.</p>	<p>Read Chapters 7 and 8 of “The Grant Application Writer’s Workbook.”</p> <p>Read Specific Aims and Training Plans sections of two to four of the NRSAs, focusing on the resubmitted application when one is available.</p> <p>Peruse NIH RePorter (search on keywords from your research ideas).</p> <p>Skim NRSA Program Announcement (PA-14-147) (focus on pgs 4, 9-11, 13-14).</p> <p>Bring to class or have on your computer: Brief description of your 2-3 training goals that you plan to accomplish through the work of the NRSA research proposal.</p>	
1-29	<p>NRSA Student Panel</p> <p>Break</p> <p>Workgroup Feedback: Discuss Student Research Idea. Focus on potential aims.</p>	<p>Bring in questions you have for the NRSA student panel.</p> <p>Read the remainder of two of the NRSAs that you read for the prior class (focusing on the resubmitted application when one is available), and their summary statements if available.</p> <p>Read Student Research Idea papers from your workgroup. Complete one Brief Research Ideas Peer Reviewer Form for each person in your group (submit to Sakai and give to them in hard copy or by email by the beginning of class).</p>	<p>Final Student Research Ideas assignment is due on Sakai and to your workgroup by 5:00 PM on Tuesday, 1/26.</p> <p>Brief Research Ideas Peer Reviewer Form is due on Sakai and to your workgroup prior to start of class.</p>
2-5	<p>Reading and Critiquing Grant Proposals</p> <p>NRSA review criteria and discussion of NIH reviewer video</p>	<p>Read Proposals 1 and 2. Take notes for yourself, critiquing the proposals (strengths and weaknesses) based on NIH form. You will use these during the workgroup activity in class.</p>	

	<p>Break</p> <p>Workgroup discussions on critiquing assigned proposal (35 min).</p> <p>Workgroup presentations of proposal critique (5 min per group) and general discussion (10 min per proposal after all groups for that proposal have presented).</p> <p>Overview of Peer Reviewer Specific Aims Feedback form</p>	<p>Read Guide on Peer Reviewing Grants.</p> <p>Read NIH scoring guidelines.</p> <p>Optional, but recommended: Read NIH Scoring System and Procedure.</p> <p>In-class:</p> <ul style="list-style-type: none"> • Workgroups 1-3: Use NIH format to critique proposal 1 (bulleted critiques are sufficient). Prepare a summary of your groups' critique (< 5 min) to share with the class. • Workgroups 4-5: Use NIH format to critique proposal 2 (bulleted critiques are sufficient). Prepare a summary of your groups' critique (< 5 min) to share with the class. 	
2-12	<p>Workgroup Feedback on Specific Aims.</p> <p>Break</p> <p>Structure of the Research Strategy</p> <p>(a) Significance (b) Approach</p>	<p>Read Specific Aims of students in your workgroup. Complete one Peer Reviewer Specific Aims Feedback form for each person in your group (submit to Sakai and give to them in hard copy or by email by the beginning of class).</p> <p>Re-read Significance & Approach sections of the two to four NRSAs you read for prior classes (focusing on the resubmitted application when one is available).</p>	<p>Draft Specific Aims are due on Sakai and to your workgroup by 5:00 PM on Tuesday, 2/9.</p> <p>Completed Peer Reviewer Specific Aims Feedback forms due on Sakai and to your workgroup prior to start of class.</p>
2-19	<p>Half-group Works-in-Progress Specific Aims Presentations:</p> <p>Break</p> <p>Structure of the Research Strategy</p> <p>Methods: (a) Study design (b) Sampling and</p>	<p>In class: We will break into two groups.</p> <p>Works-in-Progress presentation: Each student will have 5 minutes to present their study overview (Specific Aims). If there are specific issues you are struggling with, highlight these for the group. You may use up to 3 slides to present your study, but slides are not required.</p>	<p>Work-in-Progress brief presentation in class.</p> <p><u>IMPORTANT: If you are using slides, these must be submitted to the TA before 8:00 AM.</u></p>

	recruitment (c) Data collection procedures	The group will then provide 5 minutes of feedback/discussion.	
2-26	No Class (Minority Health Conference)		Refined Specific Aims due on Sakai by 5:00 PM on Monday, 2/22. Instructors will return individual feedback on your Specific Aims by Monday, 2/29.
3-4	Structure of the Research Strategy More on Methods (a) Statistical power (b) Measures (c) Statistical analyses (d) Missing data Potential Problems and Alternative Strategies Break Responding to peer/mentor reviewer comments and Grant Reviewer Comments	Bring statistics/methods questions to class. Return to readings from your previous coursework and the broader literature to continue to guide your proposal development. Read the summary statements of the NRSA applications posted on Sakai and the student responses to reviewers.	Statistics form due on Sakai by 5:00 PM on Friday, 3/4.
3-11	Workgroup time: Use this time to review issues with development of Research Strategy within your workgroups. Workgroups in each room will come together in larger half-group to discuss lingering issues with Research Strategy in moderated discussion with instructors.	Review Abstracts of student NRSA examples posted on Sakai. Re-read Human Subjects Protections Sections of example NRSA's you had read for prior classes.	“Final” Specific Aims due on Sakai and to your Faculty Research Advisor by 5:00 PM on Friday, 3/11.

	<p>Break</p> <p>HB Grants management</p> <p>Human Subjects Protection</p>		
3-18 (no class)	Spring Break – no class		
3-25 (no class)	University Holiday – no class		<p>Draft Research Strategy (Significance and Approach) due on Sakai and to your workgroup by 5:00 PM on Wednesday, 3/23. Attach Specific Aims section and a brief description of your 2-3 training goals that you plan to accomplish through the work of the research proposal.</p>
4-1	<p>Workgroup Feedback: Students provide feedback on the Research Strategy (Significance and Approach).</p> <p>Goals for Fellowship Training, building a mentorship team, and Career and Doctoral Dissertation and Other Research Experience, courses and activities to support training plan.</p> <p>Building a mentorship team and establishing career and training goals:</p>	<p>Read draft research strategy (Significance & Approach) of students in your workgroup. Complete one Peer Reviewer Feedback form for ONE person in your group (as assigned by TA) (submit to Sakai and give to them in hard copy or by email by the beginning of class).</p> <p>Read “Goals for Fellowship Training and Career” and “Doctoral Dissertation and Other Research Experience” sections of student NRSAs.</p>	<p>Completed Peer Reviewer Research Strategy Feedback form due on Sakai and to your workgroup member prior to start of class.</p>
4-8	Individual instructor meetings	Prepare any questions for your individual Instructor meeting.	Research Strategy, along with Specific Aims

			section, due on Sakai and to your Faculty Research Advisor by 5:00 PM on Monday, 4/11.
4-15	<p>Writing the Abstract</p> <p>Break</p> <p>Working groups – use this time to review your workgroup team members' abstracts and consult with your working groups for any issues you are having with any sections of the proposal.</p>	<p>Read Abstracts from the example NRSA proposals on Sakai and your fellow workgroup members.</p> <p>Skim NIH Reporter for other Abstracts in your research field (especially F31/NRSA mechanism). Take particular note of how training plan goals are incorporated within a NRSA Abstract.</p>	Abstract draft due on Sakai and to your workgroup by 5:00 PM on Wednesday, 4/13.
4-22	<p>Description of early career mechanisms</p> <p>Break</p> <p>Early Career Award Panel</p> <p>Course Evaluations</p>	<p>Prepare for Career Panel by reading about early career mechanisms on the NIH website (B/Start, K-Award (K01 K07 and K99), R03, R21, F32).</p> <p>Read early career proposals on Sakai.</p>	
4-29	<p><u>Final assignments must be uploaded to Sakai by 5:00 PM</u></p> <p>Full proposal including Abstract (no more than 30 lines), Specific Aims (1 page), Research Strategy (6 pages), References (no limit), Goals for Fellowship Training and Career (1 page), Doctoral Dissertation and Other Research Experience (2 pages)</p> <p>Late assignments will be marked down 2 points for each 24-hour period or portion thereof.</p>		