HPS 620A:
Advanced Research in Health Promotion Sciences I
Fall 2017 (3 units)

Mondays, 9-11:50am, Drachman Hall, Room: A119

Instructors:
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Office Hours: By appointment.

Course Description: This modular course provides an opportunity for doctoral level students to advance their understanding and skills in public health research and evaluation methods. The course is structured to guide students through the development of their own research project following guidelines set by federal funding agencies. This course covers priority setting, conceptual modelling, behavior change theory and intervention, and research design and evaluation, which includes an introduction to randomized controlled trials.

Course Modules:
1. Introduction to HPS Research: In this module, students will learn skills in conceptualizing and developing research and evaluation projects in Health Promotion Sciences. Students will learn how to assess and prioritize community needs, incorporate the scientific knowledge base, develop conceptual models, and write project goals and objectives.

2. Behavior Change Theory and Intervention: In this module, students will learn major health behavior change theories applied at the individual, interpersonal, and group/community levels. Students will evaluate recent examples of health interventions incorporating behavior change theory in order to inform their own research and practice.
3. **Research Design**: In this module, students will review of common experimental, quasi-experimental and non-experimental designs in health-related research. Focus will be placed on considerations in quantitative research design to include internal validity, external validity, and statistical design. Students will be introduced to mixed methods design and randomized controlled trial methodology with a focus on methods for the assessment and maintenance of group equipoise (e.g., selection of a control group, intervention training and fidelity monitoring, etc.).

**Course Pre-requisites**: Enrollment in a doctoral program in health promotion sciences or consent of the instructor. All students must have taken or concurrently be enrolled in BIOS 576A Biostatistics in Public Health or the relative equivalent.

**Course Learning Objectives:**

1. Conceptualize a health and/or development project from the initial phase of project formulation incorporating:
   a. needs assessment, priority setting, significance and innovation
   b. a conceptual model
   c. a theoretical framework,

2. Develop skills in key components of project planning and evaluation with particular reference to:
   a. research design, statistical design
   b. survey and measurement

3. Demonstrate essential skills in communication including grant writing, scientific writing, and peer review

**Major Assignment**

To learn principles and skills in research and methodology, students are to write the Research Plan of the NIH F31 Individual Predoctoral National Research Service Award (NRSA). The purpose of the NRSA is to enable predoctoral students to obtain mentored research training while conducting dissertation research in scientific health-related fields relevant to the mission of the participating NIH Institutes and Centers. You are highly encouraged to submit this grant proposal to NIH and also to use this grant proposal as a stepping stone to your dissertation project. See last page ("Should I submit this project to the NIH?"). NIH Application Information is in D2L Content Tab, Grantsmanship submodule.

Throughout the semester of the course you will be graded on drafts of the following proposal documents that will undergo revision and review by multiple instructors. Instructors will be utilizing a grading rubric employed by NIH (1 = exceptional; 9 = poor). NIH Scoring Information is in D2L Content Tab, Grantsmanship submodule. By the end of the course you will have completed the following pieces of the F31 proposal:

1) Specific Aims page (1 page)
2) Research Strategy (6 pages) following NRSA guidelines
3) Human Subjects section, including:
   a. Protection of Human Subjects
   b. Data Safety and Monitoring (for Clinical Trials)
   c. Inclusion of Women and Minorities
   d. PHS Inclusion Enrollment Report
   e. Inclusion of Children
Mentorship is a vital part of the grantwriting process. Therefore, 50 points are provided for assuring you have had a conversation with your mentor about your project idea and that s/he has read at least one draft of this project. This assignment may be completed at any time throughout the semester and must be completed and turned into Dr. Haynes by the last day of class. It is highly recommended that you complete this assignment as early as possible in the semester so that your mentor can assist you with project ideas and focus. Your mentor’s participation is necessary if you decide to develop this assignment into an actual grant submission.

In addition to the grant proposal, other assignments are provided to help you learn the module-based content material. Fifty points are provided for attendance at a 30-minute tutoring session, Aspects of Research workshop, or graduate student writing group at the Writing Skills Improvement program (WSIP; http://wsip.arizona.edu). You may substitute this requirement at attendance at a Responsible Conduct of Research (RCR) workshop conducted by the Human Subjects Protection Program (http://rgw.arizona.edu/research-compliance/rcr/workshops). Other substitutions are allowed with the permission of Dr. Haynes. The purpose of this assignment is to foster your awareness of available UA research training resources outside of the classroom environment.

**Core Competencies Addressed:**

This course will teach skills for Public Health Professionals within the domains of Analytical/Assessment, Communication, and Public Health Sciences. Specific competencies addressed during Part I of this course include:

- Describes factors affecting the health of a community
- Communicates in writing and orally with linguistic and cultural proficiency
- Evaluates strategies for communicating information to influence behavior and improve health
- Critiques the scientific foundation of the field of public health
- Synthesizes evidence from print and electronic sources to support decision making
- Explains limitations of evidence
- Ensures the use of evidence in developing, implementing, evaluating, and improving policies, programs, and services
- Ensures collection of valid and reliable quantitative and qualitative data

**Required Text**


**Required Other Reading**


Supplemental Readings/Resources (see schedule)

Course Notes: Reading assignments and course materials will be made available on the course web site at D2L. Because there are multiple instructors and guest lecturers, it is vital to frequently check course announcements to ensure that you are prepared for class.

Course Grades
Grades on your assignments are provided by Drs. Haynes and Gerald based on specific assignments and class participation.

A word document format to the D2L dropbox is due by 9:00am on the due date. It is your responsibility to ensure that the instructor receives your assignments by the due date. Problems with technology will not be accepted as sufficient reason for late or non-submission of required assignments.

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Due Date</th>
<th>Assignment</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haynes</td>
<td>9/5/17</td>
<td>Conceptual model, mentor</td>
<td>50</td>
</tr>
<tr>
<td>Haynes</td>
<td>9/11/17</td>
<td>Discussion Points</td>
<td>50</td>
</tr>
<tr>
<td>Haynes</td>
<td>9/18/17</td>
<td>Discussion Points</td>
<td>50</td>
</tr>
<tr>
<td>Haynes</td>
<td>9/25/17</td>
<td>Discussion Points</td>
<td>50</td>
</tr>
<tr>
<td>Haynes</td>
<td>9/25/17</td>
<td>Id applied theory/intervention</td>
<td>50</td>
</tr>
<tr>
<td>Haynes</td>
<td>10/2/17</td>
<td>Topic brainstorm, lit review</td>
<td>50</td>
</tr>
<tr>
<td>Haynes</td>
<td>10/9/17</td>
<td>Conceptual model (50 points), class participation (25 points)</td>
<td>75</td>
</tr>
<tr>
<td>Gerald</td>
<td>10/16/17</td>
<td>Specific Aims (SA) Draft 1</td>
<td>50</td>
</tr>
<tr>
<td>Haynes, Gerald</td>
<td>10/23/17</td>
<td>SA Draft 2; Annotated Outline of Significance Section (SIG)</td>
<td>50</td>
</tr>
<tr>
<td>Gerald</td>
<td>11/6/17</td>
<td>SA Draft 3; SIG Draft 1</td>
<td>75</td>
</tr>
<tr>
<td>Gerald</td>
<td>11/13/17</td>
<td>Peer Feedback</td>
<td>50</td>
</tr>
<tr>
<td>Gerald</td>
<td>11/20/17</td>
<td>SA Draft 4; SIG Draft 2</td>
<td>150</td>
</tr>
<tr>
<td>Haynes</td>
<td>12/4/17</td>
<td>• Last day to turn-in signed mentor acknowledgement</td>
<td>50</td>
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<td></td>
<td></td>
<td>• Last day to turn-in WSIP or RCR attendance</td>
<td>50</td>
</tr>
<tr>
<td>Haynes</td>
<td>12/12/17</td>
<td>SA Draft 5, SIG Draft 3, Response to Reviewers</td>
<td>150</td>
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</tbody>
</table>

TOTAL 1000

Together, the grades sum to 1000. Your course grade will be based on the following grading scale: A = 1000-900 points, B = 899-800, C = 799-700, D = 699-600, E = 599-0

Policy on Late Assignments: The main assignment is designed to give you experience writing a NIH grant proposal you may submit for funding. NIH does not accept grants that are late, regardless of the reason. It essential that assignments are submitted by the time and date specified since so much time in-class is spent working with your drafts. As such, a 10% point reduction will occur each day the assignment is late.
**Class Attendance:** Attendance and active class participation are necessary to learn and master the proposal skills in this doctoral-level course. This course meets only once per week. It is recommended that you minimize absences and plan carefully. It is highly recommended that you notify the appropriate instructor of any absence in advance. Any student who does not attend the first two classes and does not contact the instructor may be automatically dropped from the course.

**Withdrawal:** You may withdraw from the course with a deletion from your enrollment record through September 17 using UAccess. You may withdraw with a grade of "W" through October 28 using UAccess. After October 28, you may complete a Late Change Petition to request for a withdrawal through the college. These withdrawals are dealt with on a case by case basis, and requests for late withdrawal may or may not be honored.

**Incompletes:** UA policy states: “The grade of I may be awarded only at the end of a term, when all but a minor portion of the course work has been satisfactorily completed. The grade of I is not to be awarded in place of a failing grade or when the student is expected to repeat the course; in such a case, a grade other than I must be assigned. Students should make arrangements with the instructor to receive an incomplete grade before the end of the term.”

**Classroom Etiquette:** Please turn off your cell phone during class. Do not make calls or text during class. Use your computer for classroom activities only.

**Required Statements:**

**Communications:** You are responsible for reading emails sent to your UA account from your instructor and the announcements that are placed on the course web site. Information about readings, news events, your grades, assignments and other course related topics will be communicated to you with these electronic methods. The official policy can be found at: [https://www.registrar.arizona.edu/personal-information/official-student-email-policy-use-email-official-correspondence-students](https://www.registrar.arizona.edu/personal-information/official-student-email-policy-use-email-official-correspondence-students)

**Disability Accommodation:** If you anticipate issues related to the format or requirements of this course, please meet with Dr. Haynes to discuss ways to ensure your full participation in the course. If you determine that formal, disability-related accommodations are necessary, it is very important that you be registered with Disability Resources (621-3268; drc.arizona.edu) and notify Dr. Haynes of your eligibility for reasonable accommodations. We can then plan how best to coordinate your accommodations. The official policy can be found at: [http://catalog.arizona.edu/2015%2D16/policies/disability.htm](http://catalog.arizona.edu/2015%2D16/policies/disability.htm)

**Code of Academic Integrity**

Students are encouraged to share intellectual views and discuss freely the principles and applications of course materials. However, graded work/exercise must be the product of independent effort unless otherwise instructed. Students are expected to adhere to the UA Code of Academic Integrity, available through the office of the UA Dean Students: [http://deanofstudents.arizona.edu/policies-and-codes/code-academic-integrity](http://deanofstudents.arizona.edu/policies-and-codes/code-academic-integrity)

**Classroom Behavior:** (Statement of expected behavior and respectful exchange of ideas: Present policies to foster a positive learning environment, including use of cell phones, mobile devices, etc.).
Students are expected to be familiar with the UA Policy on Disruptive Student Behavior in an Instructional Setting found at: [http://policy.arizona.edu/education-and-student-affairs/disruptive-behavior-instructional-setting](http://policy.arizona.edu/education-and-student-affairs/disruptive-behavior-instructional-setting)

**Threatening Behavior Policy:** The UA Threatening Behavior by Students Policy prohibits threats of physical harm to any member of the University community, including to one’s self, [http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students](http://policy.arizona.edu/education-and-student-affairs/threatening-behavior-students)

**Nondiscrimination and Anti-harassment Policy:**
The University of Arizona is committed to creating and maintaining an environment free of discrimination, [http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy](http://policy.arizona.edu/human-resources/nondiscrimination-and-anti-harassment-policy)

**UA Smoking and Tobacco Policy:**
The purpose of this Policy is to establish the University of Arizona’s (University) commitment to protect the health of University faculty, staff, students, and visitors on its campuses and in its vehicles, [http://policy.arizona.edu/ethics-and-conduct/smoking-and-tobacco-policy](http://policy.arizona.edu/ethics-and-conduct/smoking-and-tobacco-policy)

**Syllabus Changes:** Information contained in the course syllabus, other than the grade and absence policies, may be subject to change with reasonable advance notice, as deemed appropriate by the instructor. It is the student’s responsibility to keep informed of any announcements, syllabus adjustments or policy changes made during scheduled classes.
Should I submit this project to the NIH?

Benefits of submitting this project to the NIH include:

- Increased knowledge and master of all elements of the grants submission process
- Less ramen soup! If funded, this fellowship offers 5 years of full support for stipend, partial tuition and an institutional allowance/ funds for equipment, books and travel (currently $23,376 annual stipend + $4,200 institutional allowance)
- Building your CV. Employers appreciate demonstrated potential to receive federal funding.
- Saving yourself time. This project could clear the way for more time conducting research and your dissertation.

If you elect to submit the grant to the NIH, the following additional documents will be necessary to complete in collaboration with your mentor (sponsor):

1) Project Abstract (10 lines)
2) Project Narrative (3 sentences)
3) Applicant’s Background and Goals for Fellowship Training (6 pages)
4) Respective Contributions (1 page)
5) Selection of Sponsor and Institution (1 page)
6) Training in the Responsible Conduct of Research (1 page)
7) Sponsor and Co-Sponsor Statements (6 pages)
8) Letters of Support from Collaborators, Contributors, and Consultants (6 pages)
9) Description of Institutional Environment and Commitment to Training (2 pages)
10) Biographical Sketch (5 pages)
11) Reference Letters (Up to 5)
12) Facilities and Resources
13) Resource Sharing Plan
14) Cover Letter (1 page)
15) Budget and Budget Justification

If you choose to submit this fellowship proposal to the NIH, it is vital to communicate regularly with your mentor about this project, beginning with your conceptual model. Examples of collaborative discussions might include:

- Do we need to include a co-mentor with NIH funding?
- Is my conceptual model consistent with your understanding of the literature?
- Can you provide feedback on my Specific Aims page?
- Which funding agencies should I consider
- When is it time to consult with the program officer of the proposed agency?
- Are there any specific resources or physical space limitations I need to consider in the design of my project?
- Who should be collaborators (and will this resemble my dissertation committee)?
- What should I emphasize in the goals for fellowship training?
- Is there any stock language you have that I may use for the sponsor and institution statement?
- Would you like me to draft the sponsor statement? If so, would you like to outline it together?
- Can you review my research strategy? biosketch? Etc.?

DEADLINES: April 8, Aug 8, Dec 18 –> AUGUST 8 is recommended so that you can incorporate all of the feedback you received in class and have sufficient time over the summer to write the remaining elements. I
Course Schedule

Week 1: Aug. 21

Introduction
The week’s materials will provide an overview of the course, clarify course expectations, introduce you to an overview of the grant-writing process, and discuss different epistemologies of research in public health, including scientific hypothesis testing

- Haynes: Review syllabus, course expectations
- Gerald: Introduction to grant review process
- Carvajal: Epistemologies of science, scientific hypothesis testing

Reading

Note. This schedule is subject to revision as necessary. Be sure to be aware of announcements made in class and on D2L. Readings will be assigned during class or on D2L.

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Class Topic</th>
<th>Grant Proposal Assignment Due</th>
<th>Other Assignment Due</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Week 2: Aug 28</strong></td>
<td>Haynes</td>
<td>What is a conceptual model; Mediators and moderators; Crafting hypotheses</td>
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</tr>
<tr>
<td><strong>Week 3: Sept 4</strong></td>
<td>Labor Day no class</td>
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<td>9/5: Conceptual model employed by a mentor or collaborator (Due to Haynes)</td>
</tr>
<tr>
<td><strong>Week 4: Sept 11</strong></td>
<td>Haynes</td>
<td>Behavior Change Theory and Intervention</td>
<td>Discussion Points</td>
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<tr>
<td><strong>Week 5: Sept 18</strong></td>
<td>Haynes</td>
<td>Behavior Change Theory and Intervention</td>
<td>Discussion Points</td>
</tr>
<tr>
<td><strong>Week 6: Sept 25</strong></td>
<td>Haynes</td>
<td>Behavior Change Theory and Intervention</td>
<td>1. Discussion Points 2. Identify theory/intervention employed by mentor or collaborator (Due to Haynes)</td>
</tr>
<tr>
<td>Week 7: Oct 2</td>
<td>Carvajal</td>
<td>Identifying a research topic; Priority setting and needs assessment; Significance and Innovation</td>
<td>Topic brainstorm, brief literature review assignment (Due to Haynes)</td>
</tr>
<tr>
<td>Week 8: Oct 9</td>
<td>Haynes/Gerald/Carvajal</td>
<td>What’s your model? Small group consultation.</td>
<td>Conceptual model assignment (Due to Haynes)</td>
</tr>
<tr>
<td>Week 9: Oct 16</td>
<td>Gerald</td>
<td>Grantwriting – Aims and Significance</td>
<td>Specific Aims Draft 1 (Due to Gerald)</td>
</tr>
<tr>
<td>Week 10: Oct 23</td>
<td>Haynes</td>
<td>Research Design 1: Intro to Research Design, internal and external validity</td>
<td>1. Specific Aims Draft 2 2. Annotated Outline of Significance (Due to Haynes &amp; Gerald)</td>
</tr>
<tr>
<td>Week 11: Oct 30</td>
<td>Haynes</td>
<td>Research Design 2: Threats in internal validity; Experimental and Quasi-Experimental Design</td>
<td></td>
</tr>
<tr>
<td>Week 12: Nov 6</td>
<td>Roe / TBD</td>
<td>Statistical Design / Working with Statisticians</td>
<td>1. Specific Aims Draft 3 2. Significance Draft 1 (Due to Gerald &amp; Peers)</td>
</tr>
<tr>
<td>Week 13: Nov 13</td>
<td>Gerald</td>
<td>Grantwriting – Individual Meetings</td>
<td>Peer Feedback (Due to Gerald/Peers)</td>
</tr>
<tr>
<td>Week 14: Nov 20</td>
<td>Ehiri/Carvajal</td>
<td>Research Design 3: Threats to external validity; Qualitative/mixed methods design</td>
<td>1. Specific Aims Draft 4 2. Significance Draft 2 (Due to Gerald)</td>
</tr>
<tr>
<td>Week 15: Nov 27</td>
<td>Thomson</td>
<td>Randomized Controlled Trials 1</td>
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<tr>
<td>Week 16: Dec 4</td>
<td>Thomson</td>
<td>Randomized Controlled Trials 2</td>
<td></td>
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</tbody>
</table>

- Signed acknowledgement by mentor on any F31 assignment
- Documentation of WSIP, RCR or other with permission
| Dec. 6: Last day of classes |
| Dec. 7: Reading Day |

(Due to Haynes)