College of Public Health & Health Professions PHC 6445
Global Health and Development II

Syllabus Spring, 2023

Time: Monday 9:35-12:35.

Physical Location: HPNP G-105.

Virtual Location: Pending (if needed)

Credits: 3

Faculty

Eric Nelson, MD PhD Tel: 352-294-8536
Department of Pediatrics, College of Medicine
Department of Environmental and Global Health, PHHP
Email: eric.nelson@ufl.edu

Office Hours: Monday 3:00-5:00 pm EPI 273 (email to confirm appointment)

Course Overview or Purpose

Global Health and Development II provides essential CV building skills for a successful career in Global Health (GH) and Development. The course leverages theory presented in Global Health and Dev I (not a pre-requisite). The syllabus covers three topic areas: (i) **Ethics:** students will take the CITI human subjects training course and the NIH Good Clinical Practice Training course. The certificates from these courses are requirements for most IRB associated research. Specific global health topics in these courses will be explored in small group and didactic settings. After 'certification', students will be engaged with several speakers who will highlight ethical challenges they face internationally. (ii) **Research design:** While classical study designs (e.g. pre/post, RCTs) are valuable, global health scientists are developing powerful research designs that accommodate for challenges in field research (e.g. step-wedged). Each of these designs will be visited by reading a representative primary publication, and student will write a grant-ready specific aims page and research strategy that will highlight their understanding of ethics and design challenges. (iii) **Data collection:** The research strategy will be made practical by developing a survey on a mobile device that one would deploy to deliver the proposal. To do this, an expert in REDcap and ODK will guide student groups on establishing a mobile phone based IRB compliant survey. Students will finish with two ethic certificates, knowledge of research design in difficult field settings and skills to put the ideas into practice via robust mobile data collection.

Course Objectives

Upon successful completion of the course, students will / will be able to:

1. Have in depth understanding of ethical principles relevant to global health (GH) research.
2. Hold certificates for human subjects research.
3. Identify, discuss, and illustrate contrasting ethical challenges in GH research.
4. Identify core strategies for sampling in difficult research settings.

5. Identify optimal research designs that enable controlled studies and address logistical constraints.
6. Convey a formal 7 page IRB protocol that covers a novel research topic of interest with a controlled research design that follows ethical constraints.
7. Gain a working understanding of screening forms and case report forms.
8. Gain a working understanding of mobile data collection tools (e.g. REDCap, ODK, Kobotu).
9. Build a mobile data collection tool that addresses the aims of the research proposal.

Course Materials

Readings will be drawn from current published literature in public health and development.

Class participation

As a graduate class, all students are expected to attend and actively participate in class. While in class, do not use electronic devices, including phones, tablets, and laptop computers, for purposes other than those relating to the class. In virtual settings, the video is expected to be 'on' and distracting activities (e.g. checking email) are not allowed.

Evaluation

Overview:

- 5%. Completion of ethical certificate (s) and brief ethics commentary.
- 5%. Two-page compare/contrast essay on one ethical conflict in the training modules or based on guest presentation (s).
- 20%. Mid-term exam on research design (in class)
- 30%. Individual IRB protocol and presentation
    - Specific aims
    - Research protocol
    - Data collection tool
    - IRB PDF
- 20%. Individual presentation of proposal with demonstration of REDCAP
- 10%. Discussion leader of a journal article (lead/ co-lead one class session)
- 10%. Class attendance.

Commentary: Brief essay on strengths and weaknesses of foreign financial aid on local economics.

Compare/ contrast essay. This is a short 2-page compare/contrast essay to identify a topic with in the training materials that might not be simply defined when working in a global health setting. Format will be a thesis statement, background, compare/contrast section, and conclusion. Assignments is due before class on the week that they are listed.

Mid-term exam. This is designed for you to test your understanding of GH research design principles in difficult field settings (in class). The week. Prior to the exam, the core elements of the exam will be discussed.

Individual IRB protocol. Each student will develop an IRB protocol. It will consist of a 1 page specific aims page, a 1 page introduction, then a 5-8 page methods section that patterns the specific aims. A bibliography (e.g. EndNote) is required but is not part of the page requirement of 7-10 pages. Margins are

0.5 (top/bottom/sides) spaced 1.5 and Arial 11 pt. In the appendix, attach the paper data collection tool that was used to make the redcap site. The student will add the IRB protocol as a PDF to a UF myIRB application. This assignment will replace a final exam and will be due prior to individual presentations.

Individual presentations. Each group will be required to equitably present their IRB proposal. The survey tool (electronic) will be tested during the presentation.

Discussion leader. For several weeks, a team of students will lead a class discussion on the empirical readings. Students should synthesize readings sufficient to highlight key take-away messages and raise critical questions the empirical readings through discussion with classmates. Approximately 20 minutes of each class will be allocated for such discussion. While visual aids are ok for essential data figures, full power point presentations are not recommended.

Class participation. Consistent with the spirit of graduate education and the interactive nature of development practice, students are expected to participate fully in every class session. Attendance taken each class and evidence of having completed all readings and associated homework before each class will determine participation grade. There will also be several instances in which students will be required to submit a brief journal entry on the topic discussed in class. These will be due by the end of class and are designed to confer techniques for 'working while at a meeting.'

Attendance: Notify the instructor prior to any absence. For excused absences, material will be accepted up to one week after the class. Unexcused or unannounced absences will be allowed once, after that the student will be lose 10% of the grade. If there are more than two unexcused absences the student will be asked to exit the course.

Wk	Date	Topic	Instructor	Prep for Class	Assignment(s)
1	1/09	**Ethics I** Introduction H1: Poverty Inc. H2: Course Goals H3: Ethical Frameworks	Nelson Peterson (H3)	Anna Peterson 3 papers. NYTimes x 2 articles.	1) Write and submit analysis on the movie in the context of the 2 NYT articles. 1 page max; Arial 11 single space. Use scientific review format. Due prior to start of 1/23 class. 2) Submit "CITI Mandatory IRB Trng-Biomed" #H70, CITI "Good clinical practice: Biomedical Research" #GCP200, UF HIPAA "PRV800", and UF IRB "IRB803". Upload certificates prior to start of 1/23 class. Journal key ethical issues that relate to GH in the materials.
2	1/23	**Ethics II:** IRB Mechanics H1: myIRB (part 1) H2: Breakout: on CITI and HIPAA trainings H3: Ethical issues from the perspective of an international research partner.	Nelson Taiba Afaa Jibril	Complete/upload training certificates, bring journal entries on flaws in the trainings for global health research.	1. Prior to 1/30 class, write down three GH challenges / research topics of interest to you. These will be used for breakouts. 2. Upload three questions/comments on Petroze's papers prior to 1/30 course.

3	1/30	**Ethics Part III:** H1: GH surgery lecture H2: Breakout: Research Challenges in GH H3: myIRB (part 2), and if time allows, reflections on essays from 1/9/22.	Robin Petroze (UF surgery) Nelson	Read R. Petroze 3 papers.	1) Make sure myIRB is working on your computer prior to 2/6 course. 2) Upload three ethical questions/concerns on Dr. Nelson's myIRB protocol.
4	2/6	**Ethics Part IV:** H1: Case studies in infectious diseases H2: IRB protocol/ DSMB/IP/COI H3: Pending	Nelson Pending	Read stool transplant study paper, and the myIRB protocol from Dr. Nelson's research.	1) Send paper to be used in group discussions on 2/13 to Dr. Nelson by 2/8. Prep 30-minute presentations on a global health paper that represents a conflict.
5	2/13	**Ethics Part V:** H1: Groups 1 and 2 presentations H2: Groups 3 and 4 presentations H3: Pending	Nelson Pending	Read papers prior to group presentations (4).	1) Submit 2 page compare and contrast paper on an ethical conflict that falls within the domains of the guest speakers' presentations by 2/20.
6	2/20	**Design Part I:** H1: Design thinking H2: Classic models (I) H3: Group 1: P Value Hacking (30 min). Group 2: P value Hacking (30 min).	Nelson Gurka (virtual)	Read IDEO HCD manual (uploaded to Canvas). Read P value hacking papers and pilot study video	1) Individually, identify a topic area of interest, read and draft a one-page specific aims and one page literature with a bibliography in endnote of 10 papers on your topic area, upload by 2/27.
7	2/27	NO CLASS: Dr. Nelson is on clinical service. Individual meetings will be made to go over Specific Aims.	NA	NA	1) Work on specific aims and protocol 2) Groups 3 and 4 send two high profile paper on a classic model to EJN by 3/1. Dr. Nelson will select and send out to the group.
8	3/6	**Design Part II:** H1: Classic models (II) H2: Groups 3-4 (each group will present one example of a classic model) H3: Emerging models	Nelson	Prepare group presentations and read papers (Groups 3-4)	1) Work on specific aims and protocol. 2) All groups: send two high profile paper on emerging models to EJN by 3/8. Dr. Nelson will select and send out to the group.
9	3/20	**Design Part III:** H1: Group 1-2 (stepped wedges) H2: Group 3-4 (responsive, iterative, other designs) H3 Pending	Nelson	Prepare group presentations and read papers on emerging models. (Groups 1-4).	1) Submit updated specific aims and draft protocol by 3/27.
10	3/27	**Implementation I**: H1: Ghana (MNS) H2: SOPs	Nelson Nancy Séraphin	Pending	1) Prepare paper data collection instrument by 4/3. 2) Prepare for mid-term.

		H3: Paper Data Collection Instruments.			3) Submit 3 questions on Becker papers.
11	4/3	**Implementation II** H1: Becker. Implementation. H1: Mid-term exam H3: Red Cap Intro	Nelson Becker Klarman	Becker papers (3)	1) Assure that you have redcap access (web). 2) Bring paper data collection instrument to class to ready it for conversion to redcap.
12	4/10	**Implementation III:** Electronic Data Collection Instruments. H1: Electronic Data Collection, including ODK. H2: RedCap challenges and field collection. H3: Questions.	Klarman	Pending	1) Begin finalizing Aims, Protocol, and Bibliography. 2) Begin finalizing RedCap and bring questions to class. 3) Begin finalizing myIRB.
13	4/17	**Project presentations** H1-3: Students 1-6	Nelson / Students	None	1) Submit IRB PDF, Specific Aims, and Protocol with paper data collection tool. 2) Students 1-6. Finish presentations (15 min + 5 min questions) with finalized REDcap mockups
14	4/24	**Project Presentations** H1-3: Students 7-12	Nelson / Students	None	1) Students 7-12. Finish presentations (15 min + 5 min questions) with finalized REDcap mockups.