

PUBH 754: Research Frameworks and Methods for Assessing and

Improving Population Health

Spring 2016

Class sessions: Tuesdays, 11am – 12:50 pm

Location: Hooker Research Center, 1001

Faculty: Anna Schenck, PhD, MSPH (anna.schenck@unc.edu)

Office hours: By appointment. Please contact Chantal Donaghy to schedule appointment: Donaghy@email.unc.edu

Teaching assistant: Marie Lina Excellent, MD (marilina@live.unc.edu)

Course Overview

This is a 3-credit course designed to provide students with the fundamental research and analytic methods needed by public health leaders to assess the effectiveness, efficiency and equity of healthcare in order to improve population health. The focus will be on research skills needed by practitioners with the objective of improving health outcomes. This course is being taught in a hybrid fashion, and has both asynchronous and synchronous components. Students can watch on-line lectures and complete assigned activities at any time prior to the class for which they are assigned. All students are expected to participate in the scheduled weekly class sessions, either in-person or online.

Course Objectives:

At the end of this course, students will be able to:

1. Use conceptual models to illustrate public health issues and identify intervention opportunities
2. Understand how to identify and implement evidence based public health strategies
3. Identify public health measures and recognize characteristics of good measures and reliable sources for public health measures
4. Identify public health databases and be able to extract data relevant to public health practice questions
5. Define, critique and use study designs applicable for public health practice

Required Text:

Shadish WR, Cook TD, Campbell DT. Experimental and quasi-experimental designs for causal inference, Houghton Mifflin Company, NY, 2002.

Supplemental Text (selected chapters will be required reading but you are not required to purchase the book):

Aday, L. A., C. Begley, D. Lairson and R. Balkrishnan. *Evaluating the Healthcare System: Effectiveness, Efficiency, and Equity (3rd Edition.)*. Chicago: Health Administration Press, 2004

Additional Readings:

In addition to readings in the required text, this course will draw on readings selected from multiple sources. The readings will be a mixture of methods-based materials and examples of the methods drawn from peer-reviewed literature. Reading required materials prior to class will be expected, as much of the class time will be spent discussing assigned materials. Please check the course Sakai site for reading assignments.

Assignments:

In addition to completing assigned readings, students are expected to participate in three other types of assignments, each detailed below.

Assignments specific to your individual research topic:

Students select a public health practice setting and topic to be the focus of their individual assignments throughout the course. Brief assignments will target different research skills, such as developing a problem statement, selecting appropriate measures, identifying and selecting appropriate interventions, assessing the impact of interventions. Assignments should be no more than one page in length. Written assignments should be submitted on the date indicated on the syllabus. Students should be prepared to discuss the assignment during class and engage in discussion of other student's assignments.

Class discussion leader:

Students are expected to lead the class discussion around an assigned article illustrating a research or analytic approach once during the semester. Sign up will take place during the first class period. As discussion leader, you will be expected to summarize the article and develop a few thought-provoking questions to lead the discussion. You should draw on the academic readings in developing the questions, which should address the research methods used in the article and the impact the methods have on the conclusions the authors make.

Final Project:

Using a guide which I will provide, you will develop a structured abstract describing a study you propose and give a presentation to the class about your study. Your presentation and materials submitted to accompany the presentation will take the place of the final exam. This presentation will build on earlier assignments and cover a comprehensive plan to investigate a public health concern, identify potential solutions and a study plan to demonstrate the worth of the selected solution. Final projects will be due and presentations will be completed during the University assigned exam period for this class.

Attendance:

Students are expected to attend and participate in every session. Because this class only meets once a week, any absence will result in missing a substantial amount of material. If you must miss a class session, please notify Dr. Schenck by email prior to the session.

Grades:

Student evaluation will be based on four separate components:

1. **Class participation – 5%**
Your grade for participation will be based on the following criteria: the extent to which you demonstrate you have read and thought about the readings, the extent to which you have thoughtfully completed the assignment, and the extent to which you demonstrate you can apply the concepts by making constructive suggestions and comments about other students' assignments. I am more interested in the *quality* of the comments than the *quantity*.
2. **Written assignments based on your selected topic– 40%**
Written assignments will be graded based on your demonstration of understanding of the research methods concepts covered in the assignment.
3. **Class discussion leader - 15%**
Your grade for the session you lead will be based on the extent to which you can use the article to illustrate research design methods and concepts from the substantive readings and the extent to which you successfully engage students in the discussion.
4. **Final presentation - 40%**
You will be given an outline to follow in preparing your presentation. Your grade will be based on the extent to which you demonstrate understanding and appropriate application of the course materials and the clarity of your presentation.

Valuing Diversity

Promoting and valuing diversity in the classroom enriches learning and broadens everyone's perspectives. Inclusion and tolerance can lead to respect for others and their opinions, which is valuable in itself and is critical to maximizing the learning that occurs in this course. Therefore, this class follows principles of inclusion, tolerance, and respect for multiple and diverse points of view.

The University of North Carolina Honor Code

While the *Instrument* is continuously amended to address new circumstances and challenges, it remains the foundation of the system of student self-governance. The *Instrument* is available online.

For more than 130 years, Carolina students have pledged not to lie, cheat, or steal. Students enjoy a great deal of freedom at Carolina and have been entrusted to hold each other accountable for maintaining a just and safe community. As such, students hear and decide all alleged cases of conduct and academic integrity violations.

About the Honor Code

The Honor Code is the heart of integrity at Carolina. In brief, the Honor Code says that all students shall "Refrain from lying, cheating, or stealing," but the Honor Code means much more. It is the guiding force behind the students' responsible exercise of freedom, the foundation of student self-governance here at UNC-Chapel Hill. The University maintains an Honor Code because we believe that all members of our community should be responsible for upholding the values that have been agreed upon by the community. A written Honor Code is an affirmation of our commitment to high standards of conduct inside and outside of the classroom.

The Honor Code is found in a document known as the [Instrument of Student Judicial Governance](#). The Instrument is the University's official document containing the rules and regulations that guide the Honor System. The list of prohibited conduct and the possible sanctions given by the Honor Court can all be found in the *Instrument*. This document also includes information on the rights and responsibilities of all members of our community to the Honor System and under the Honor System.

IMPORTANT REMINDER: The Final Project must have the honor code pledge on the cover page or last page. Assignments submitted without the honor code pledge will not be graded.

Honor Code Pledge: "By including this sentence, I acknowledge that I understand that the Honor Code applies to this assignment and that further, I attest that I have neither given nor received help in completing this project."

Course Schedule at a Glance

Date	Session Number	Topic
January 12	1	Class overview and expectations Research paradigms and ethics for public health research
January 19	2	Frameworks and models for public health research
January 26	3	Developing a problem statement for a public health issue
February 2	4	Identifying and prioritizing public health interventions
February 9	5	Measuring public health outcomes and conditions that influence them
February 16	6	Validity, obstacles to accuracy and alternative explanations
February 23	7	Study designs with no control group or no pretests Dimensions of effectiveness
March 1	8	Study designs with both control groups and pretests Dimensions of equity
March 8	9	Interrupted time series designs
March 15	NO CLASS	SPRING BREAK
March 22	10	Regression discontinuity designs
March 29	11	Randomized experiments
April 5	12	Qualitative study designs
April 12	13	Using secondary data
April 19	14	Collecting primary data
April 26	15	Methods for assessing efficiency Dimensions of efficiency
Final Exam April 29	 Noon – 3pm	Communicating your study plan Final exam - Student Presentations j Note: this is the University assigned exam time