

PH 7019 – Public Health Research Methods
(CRN: 87556)

Shanta R. Dube, PhD, MPH
Epidemiology and Biostatistics

Fall Semester 2014

Course Basics	Class Day/Time:	Monday/4:30-7:00
	Class Location:	Classroom South 208
	Prerequisite(s):	Introductory Epidemiology; Biostatistics
	Required Course Materials	Remler, D. K. & Van Ryzin, G. G. (2011). <i>Research Methods in Practice: Strategies for Description and Causation</i> . Thousand Oaks, CA: Sage Publications.

Faculty Accessibility	Instructor(s) of Record:	Shanta R. Dube, PhD, MPH
	Office Location:	Suite 711, 1 Park Place
	Phone Number(s):	404-413-9301
	Email:	Sdube2@gsu.edu
	Office Hours/Availability:	Office hours by appointment

I. Course Description:

This course provides general introduction to research methods, emphasizing systematic approaches to collection and analysis of qualitative and quantitative data. Students will learn to identify the kinds of research problems for which qualitative and quantitative methods are appropriate, and to critique research in terms of design, technique, analysis and interpretation. Topics will include questionnaire design, ethical conduct and informed consent, sample size determination, data management, manuscript preparation, and grant application methods.

II. Course Objectives / Competency / Assessment of Student Learning:

This course is designed to support students in acquiring competence in the following four areas, as indicated in the School of Public Health Graduate Student Handbook (see MPH Core Competencies).

- Formulate pertinent research questions and hypotheses in public health in statistical terms. (MPH Core Competency #1)
- Interpret and communicate, via oral and written form to professional and lay audiences, the results of statistical analyses. (MPH Core Competency #3)
- Critically evaluate strengths and weaknesses of epidemiologic methods. (MPH Core Competency #5)
- Communicate epidemiologic concepts in both technical and lay language by explaining trends and patterns of health-related events and the importance of epidemiology in health policy, disease prevention, and health promotion. (MPH Core Competency #6)

*Students in the Master of Public Health program with a concentration in **Epidemiology** will be expected to demonstrate competence in the following areas after completion of this course:*

EPID 1. Identify and discuss risk factors and their relationship to health outcomes.

EPID 3. Assess, synthesize and critically evaluate epidemiologic literature for strengths and weaknesses.

EPID 4. Identify key sources of data for epidemiologic purposes and their strengths and limitations.

EPID 8. Identify and discuss ethical dilemmas in epidemiologic research.

EPID 9. Explain policy implications of epidemiologic research findings.

Course Objectives	Program Competency	Assessment Method(s)
Demonstrate ability to use library resources.	EPID 1	Research Proposal and Research Article Critique
Write critically and cogently.	MPH Core 3, 6	Research Proposal
Describe and identify the aspects of protection of human subjects in conducting public health research and complete training to become certified to conduct research.	EPID 8	CITI Training and Certificate
Identify public health research methods through a critical review and critique of published research and/or research proposals (qualitative and quantitative)	MPH Core 1, 3, 5 EPID 3	Research article critique
Identify the strategies and components used for public health research (sampling, measurement, analysis)	EPID 3	In class discussion and article review
Describe the differences between research design and research methods; identify the various research designs and how they are used	MPH Core 5	In class assignment and discussion and final exam
Identify differences between secondary and primary data	EPID 4	In class assignment and article critique
Identify the appropriate statistical procedures used for specific type of data.	MPH Core 1	Article review and final exam
Review and critique published research and/or research proposals.	MPH Core 5 EPID 1,3,9	Article review
Describe and develop elements of a thesis in a way that will allow the student to meet or exceed the thesis requirements for the School of Public Health.	MPH Core 1,3,5,6	Research proposal

III. Course Assignments and Requirements

This course assumes substantial and informed student participation. General discussion of theory and practice is encouraged and expected of all students. At a *minimum*, being informed requires class attendance, completion of assigned readings and homework, and attention to health care news and world events. Class attendance and thoughtful participation are important and will be reflected in part in the final grade. Please notify the instructor of an absence before the class. **All assignments should be uploaded into D2L. PLEASE DO NOT EMAIL ANY ASSIGNMENTS DIRECTLY TO ME.**

Course requirements will contribute to grade as follows:

Reflective Essay on Public Health Ethics in Research DUE 4:15 PM 9/8/2014	5%
Collaborative Institutional Training Initiative (CITI certificate) DUE 4:15 PM 10/20/2014	10%
Article Critique DUE 4:15 PM 10/27/2014	5%
Research Proposal DUE 4:15 PM 11/17/2014	10%
Midterm Exam 10/13/2014	30%
Final Examination 12/8/2014	30%
Class Participation and On time submissions	10%

Collaborative Institutional Training Initiative (CITI certificate) training for Social and Behavioral Research Ethics Training online. This certification is needed in order for you to do any research with human subjects, even for secondary data collection (data that's already been collected). You will be required to upload the CITI certificate as the completed assignment.

Reflection Essay on Research Ethics – 2 page reflection paper on at least one of the 12 principles of public health ethics. Overview key issues, identify questions you have and discuss your understanding of what to do when facing ethical dilemmas related to the ethical principle you select.

Article Critique-- Read and answer questions on selected journal article provided.

- 1) Identify the public health issue/problem to be addressed
- 2) What are the research questions?
- 3) What research design was employed: qualitative, quantitative, or mixed methods?
- 4) If it was quantitative, what were the measures used? If qualitative, what were the questions used?
- 5) Were there hypothesis that were being tested? Was a theory or model used to inform the study?
- 6) Provide 3 main citations the researchers used to inform their study.
- 7) What was the sample?

Midterm and Final Exams (30 points each for): There will be 2 tests, one on October 14, 2014 and one on December 8, 2014. Each test will cover the material up to the date of the test. Although the tests are not cumulative, it is important to remember that material covered earlier will remain relevant to concepts covered later in the course. **The tests will be in class. Students will be provided a maximum of 2 pages (front and back) of notes.**

Class Attendance and Participation: Students are expected to attend all classes and participate in discussions and in class activities. Students may be asked to post findings from their in class activities on DESIRE2LEARN. Class participation will be worth 10 points. The course on Research Methods is an integral part of your public health curriculum, therefore, I would like to emphasize that regular attendance and participation is to your benefit. You will note that many important events take place during class time (quizzes, assignments, tests, presentation of content, review information, etc.). **If you have to miss class, you are responsible for contacting me via email to let know and also for obtaining information about the course content and any other class activities that took place during the missed class. Be aware of all make-up policies.**

Research Proposal—Below is the public health topic for the research proposal.

Cigarette smoking continues to be a leading cause of death, disability and disease in the U.S. and worldwide. Over the past 50 years, cigarette smoking in the United States has declined significantly. However, close to 1 in 5 adults still smoke. Most adult smokers begin during adolescence. Some of the known effective population based strategies used to prevent and reduce smoking include hard-hitting

media campaigns, comprehensive smoke-free policies, increasing tobacco pricing, and funding U.S. states at recommended levels. Population based cessation interventions include quitlines, where persons can call for help. Clinical preventive services include asking patients about their use and providing counseling and effective cessation medications. Thus, tobacco control has a focus on primary, secondary and tertiary prevention strategies.

There are many more tobacco products other than cigarettes, which also have deleterious health effects but that are not regulated, and where increase in prevalence has been observed (e.g. little cigars). Moreover in recent years electronic cigarettes (devices that deliver vaporized nicotine which is inhaled the same way that cigarettes are) have become popular, however their safety has not been determined. The Food and Drug Administration (FDA) now has authority to regulate tobacco products and recently proposed rules to regulate other tobacco products such as cigars and electronic cigarettes.

Based on this public health issue, choose a topic related to tobacco control; the topic could be about the behavior, social determinants, policies, regulations, pharmacology, the tobacco products, tobacco product use etc. You will be responsible for accomplishing the following:

- 1) Develop a literature review based on the research topic you want to pursue. If research exists, what gaps need to be filled? Does the research area need a study in a different sample population? In a different geographic region?
- 2) Develop a specific research question. If you plan to test a hypothesis indicate what the hypothesis is. Make sure to indicate if it is as null or alternate hypothesis.
- 3) Identify references that could be used as part of the literature review. Do not exceed 10 references and cite all of the references in APA format. Identify the **3 most important references** that inform your study, and provide 2-3 sentences describing why the citation informs your study. Identify what is the best research method to answer your question (qualitative or quantitative).
- 4) Based on the research method, identify a theory or a model that would help to inform your research. If you are doing a purely epidemiologic research study, then a theory or model may not be applicable – instead indicate the biological plausibility for undertaking the research.
- 5) Will it require primary data collection or secondary data analysis? Explain your reasons for selecting primary or secondary.
- 6) If doing primary data collection, using a quantitative methods, what study design will you use? (observational, experimental etc). What about a qualitative study?
- 7) How will you obtain your sample? What sampling method will you use? (probability or non-probability)
- 8) If you are looking at the relationship between two variables, identify what will be the independent and dependent variable, and indicate the construct you are using.
- 9) Provide the measures you will use if doing quantitative data collection. Provide the questions or script if you are doing a qualitative study.
- 10) If you do quantitative study, provide the reader (myself) with some idea of the statistics you will report for your study.

IV. Grading Policy

Grading Scale:

90 – 100 points	A
80 – 89 points	B
70 – 79 points	C
60 – 69 points	D
Below 60 points	F

Withdrawals: A student who withdraws at any time up to the mid-point of the quarter will be assigned a W or WF depending upon whether he/she is doing satisfactory work at the time of

withdrawal. An average grade of D or F at the time of withdrawal will be assigned a grade of WF. After the mid-point of the quarter, the Registrar's Office will assign an automatic WF to any student who withdraws from the course without a hardship withdrawal. If a student receives permission to withdraw under hardship, the Instructor will assign a W or WF grade depending upon the student's work up to the point of time that the student withdrew.

The following is the formal policy at Georgia State University:

Effective Fall 2001, Instructors must on a date after the mid-point of the course to be set by the Provost (or his designee),

1. give a WF to all those students who are on their rolls but no longer taking the class and
2. report the last day the student attended or turned in an assignment.

Students who are withdrawn may petition the department chair for reinstatement into their classes.

Incompletes: A student will be given the grade I only if nonacademic circumstances beyond the student's control prevent the student from completing a small segment of the course—e.g., the final examination. For a student to receive the grade of I, he/she must be doing satisfactory work (an average grade of C or better) up to the point that he/she could not continue. Arrangements must be made with Instructor to remove the incomplete grade within one quarter.

V. Attendance and Class Participation Policy

Attendance is expected and will be reflected in part in the final grade.

VI. Late Assignments and Make-up Examination Policy

Make-up exams are not provided, except in hardship cases that should be discussed in advance with the Instructor. Any assignment turned in late may have points deducted up to one letter grade for each day the assignment is late or fraction thereof. There is no scheduled make-up time for exams or paper presentations. If a student cannot take an exam or present at the scheduled time, they must consult with the Instructor on scheduling the make-up.

VII. Syllabus Deviation Policy

The course syllabus and schedule of topics provide a general plan for the course; deviations may be necessary. Additional or substitute reading materials may be required and made available to students via handout or other means. In addition, as noted in the "Course Requirements" section above, students are expected to independently access and be familiar with health care issues and topics as presented in various media.

VIII. Student Code of Conduct and Policy on Academic Honesty

All students at this University are expected to engage in academic pursuits on their own with complete honesty and integrity. Any student found guilty of dishonesty in any phase of academic work will be subject to disciplinary action. The complete Academic Honesty policy is located in the GSU Graduate Catalog, Section 1350: <http://enrollment.gsu.edu/catalogs/>. Students and faculty are expected to review and conform to the university's policy on academic honesty. Information on the Student Code of Conduct and related policies and procedures are available at: <http://codeofconduct.gsu.edu/>.

Special attention should be paid to the sections on plagiarism and multiple submissions:

Plagiarism. Plagiarism is defined as, “appropriating and putting forth as one’s own the ideas, language, or designs of another” (The Living Webster, 1975) – and it is strictly forbidden. Written and oral presentations must be a student’s own work. Students plagiarizing or cheating in any form will face disciplinary action which could result in an “F” in this course and suspension or expulsion from the University. Copying from written materials, presentations, websites, etc. without source acknowledgement and referencing is plagiarism. *Read it, appreciate it, learn from it, and make sure you source it – and then reflect it with your own thoughts and words!* If you are uncertain about what constitutes plagiarism, please contact the instructor.

Multiple Submissions. It is a violation of academic honesty to submit substantial portions of the same work for credit more than once without the explicit consent of the faculty member(s) to whom the material is submitted for additional credit. In cases in which there is a natural development of research or knowledge in a sequence of courses, use of prior work may be desirable, even required; however, the student is responsible for indicating in writing, as a part of such use, that the current work submitted for credit is cumulative in nature.

IX. Disability Accommodations Policy

Students who wish to request accommodation for a disability may do so by registering with the GSU Office of Disability Services. Students may only be accommodated upon issuance by the Office of Disability Services of a signed Accommodation Plan and are responsible for providing a copy of that plan to instructors of all classes in which an accommodation is sought. The Office of Disability Services is located in the GSU Student Center, Suite 230 and online here: <http://disability.gsu.edu/>.

X. Course Evaluations Statement

Your constructive assessment of this course plays an indispensable role in shaping education at Georgia State. Upon completing this course, please take time to fill out the online course evaluation.

XI. Career Services

The School of Public Health provides career services & student leadership opportunities (student clubs & organizations) to all current SPH students and alumni. SPH Career Services can help students with resume writing, interviewing, job searching, internship development, and professional networking. Students are invited to attend our career events and workshops, and individualized career counseling appointments can be arranged. To see what career panels, career fairs, and events are available this semester, please visit: <http://publichealth.gsu.edu/students/career-resources/>. The SPH Career Services office is co-located with the Office of Academic Assistance in room 640 at One Park Place.

XII. Additional Policies and Statements

Communication

Students should check Desire2Learn at least every other day especially before driving or riding to GSU for this class. The syllabus, any changes to the syllabus, lecture slides and homework will be posted to Desire2Learn. Should you have any questions about the course or its requirements, please ask your question during class or contact the Instructor via Desire2Learn. Students also may make an appointment to meet with the Instructor on class concerns. Should you wish to contact the Instructor about your grades, please address them in writing or in person to the Instructor. Please do not use e-mail to communicate about grade concerns.

Copyright Policy

“For the purpose of copyright, students must adhere to the following rules:

- 1) Materials in the course reserves may only be accessed by a passcode or password by students enrolled in that course, and only for the semester of course enrollment
- 2) Students may not distribute copies of course reserves materials to other students

Grade Point Average Requirements

An overall grade point average (GPA) of 3.0 or better must be earned to receive the MPH degree. All core courses must be completed with a grade of B or better, and no more than six semester hours of grades less than B will be accepted for the degree. No grade below a C will be accepted toward the degree. Please refer to the Institute’s academic standing policy on Academic Warning and Suspension described in the Institute of Public Health section of the Graduate Catalog:

<http://catalog.gsu.edu/graduate20142015/institute-of-public-health/#program-and-degree-regulations>

XIII. Tentative course schedule, topics, and readings

Date	Topic in class	Assignments/Assessments
8/25/2014	Introduction to the course, description of assignments, discussion about public health research,	In class—introduce ourselves, background, public health interests, share any research experiences, and what you hope to learn from the class
9/1/2014	Note – This is a GSU holiday and we will not have class on this day. Please read over the material as we will discuss the material in class	<u>READ for 9/8:</u> Ch. 1: Research in the Real World Ch. 15: How to Find, Focus, & Present Research (pp.489-506) Ch. 14: The Ethics of Research (pp. 21, 481-486) Supplemental Material to Review: http://ethics.iit.edu/ecodes/node/4734 Work on reflection essay due on D2L before 4:20 PM on 9/8
9/8/2014	Reflection Essay due at 4:15 PM Go over Chapters 1, 15, 14. Discuss why we do public health research. Discuss how research informs public health Discuss ethical issues around conducting research (human subjects) Discuss health research in the news	Look for health research in the news/press
9/15/2014	Please meet at the library: Classroom 2, in Library North on the second floor. —we will be getting an overview of library sciences. Go over CITI website and modules. Get registered for CITI training.	<u>READ for 9/22:</u> Ch.2: Theories and Models in Research Design Ch. 3: Qualitative Research Work on CITI training (due 10/20)
9/22/2014	Go over chapters 2 and 3 Discuss qualitative research Discuss why we use theories and models in research design Describe some theories and models most used Review qualitative study in class	<u>Read for 9/29:</u> Ch. 4: Measurement Ch. 8: Making Sense of the Numbers Work on CITI training Due 10/20
9/29/2014	Go over chapters 4, 8 Discuss quantitative research Discuss differences between qualitative and quantitative research Discuss “what is measurement?” Discuss how we use measurement in research Review a quantitative study in class	<u>Read for 10/6:</u> Ch. 9: Making Sense of Multivariate Statistics

10/6/2014	<p>Go over chapters 9 Discuss multivariate statistics Discuss what it means to establish causation Discuss identify types of research that can and cannot establish causation. Review for Midterm Exam 1—bring questions on any of the chapters Developing Research Questions and Study</p>	<p>Study for Midterm Exam 1 for 10/13 Chapters 1-4, 8, 9, 14 & 15</p>
10/13/2014	<p>Midterm: In class Mid-term</p>	<p>Read for 10/20: Ch. 5: Sampling Ch. 15: How to Find, Focus, & Present Research (pp.506-515) Complete CITI Certificate DUE 10/20 Work on Research Proposal</p>
10/20/2014	<p>CITI Certificate DUE!! Go over chapters 5 and 15 Discuss types of sampling and importance to research In class group activity -- based on chapter 15 -- I will provide some mock data tables and we will examine the findings and learn to make interpretations; practice writing up results about the data</p> <p>Assignment 5 –work in class – Begin to formulate research question and hypotheses (if applicable).</p>	<p>Read for 10/27: Ch. 6: Secondary Data Analysis Ch. 7: Primary Data Collection: Surveys/Observation Work on Research Proposal Work on Article Critique Due 10/27</p>
10/27/2014	<p>Article Critique Due at 4:15 PM Go over chapters 6 and 7</p> <p>Research Proposal –you will apply our lecture from chapters 6 and 7 to determine what type of data you will use (secondary or primary data collection) and also the sampling design –chapter 5</p>	<p>Read for 11/3 Ch. 11: Observational Studies w/Control Variables Ch 12: Randomized Field Experiments Ch. 13: Natural & Quasi-Experiments Ch. 10 Causation Work on Research Proposal</p>
11/3/2014	<p>Go over chapters 11, 12, 13, and aspects of causation Discuss research designs and aspects of observational studies, randomized field experiments, natural and quasi-experiments Present different study designs and have you identify the type of study.</p> <p>Research Proposal -- you will apply our lecture from chapters 11,12,13 to determine your study design</p>	<p>Read for 11/10 Ch. 14: Politics & Production of Research Work on Research Proposal</p>

11/10/2014	<p>Answer any questions on study design Go over chapter 14</p> <p>Research Proposal -- I want you to identify if there would be any issues around the politics and ethics of your planned research</p>	<p><u>Prepare for Research Proposal presentations – 5-7 minutes for each student</u></p>
11/17/2014	<p>RESEARCH PROPOSALS DUE at 4:15 PM Research Proposal presentations</p>	<p>Begin studying for Final</p>
11/24/2014	<p>No CLASS -- THANKSGIVING</p>	
12/1/2014	<p>Finish up Research proposal presentations Review for final exam Bring any questions you may have</p>	<p>Study for final –12/8</p>
12/8/2014	<p>Final Exam</p>	