

GEORGE MASON UNIVERSITY
Department of Global and Community Health

GCH 460
Public Health Research and Methods

SYLLABUS

Instructor:	Rahman A. Parker, MS
Office Hours:	By Appointment
Office Location:	TBA
Telephone:	703-771-5290 (During office hours)
Email:	rparker1@gmu.edu
Class Schedule:	Thursdays 7:20 – 10:00 PM
Room:	Enterprise Hall 176
Placement:	Senior
Prerequisites:	Senior year pre-requisite or co-requisite: Statistics
Credits:	3 credits
Required Text:	Research Techniques for the Health Sciences Authors: James Neutens and Lurna Rubinson Publisher: Benjamin Cummings
Course readings:	Will be distributed in class

DESCRIPTION:

This introductory research course is designed to present basic concepts and methods of public health research. Emphasis is placed on evaluation and utilization of current community and public health research methods.

OBJECTIVES:

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

- Identify the characteristics of selected public and community health research designs.
- Review basic epidemiological and statistical techniques in the analysis of data
- Conduct basic epidemiological and statistical analyses with community/public health datasets.
- Critique current studies in public and community health research and evaluation.
- Discuss ethical issues in conducting research.
- Utilize community and public health research methods to design and implement a small scale evaluation project.

TOPICAL OUTLINE:

- The research process
- Literature review
- Description of study and sample designs.
- Principles of selection and use of measurement instruments.
- Critique of selected research articles.
- Design and implementation of evaluation project.

EVALUATION METHODS:

Test 1	10%
Test 2	10%
Test 3	10%
Evaluation project and poster presentation	20%
Critiques (2 critiques, 10% each)	20%
Program Evaluation	10%
Computerized literature search (Find 2 articles)	5%
Internet assignment (search for programs and critique)	5%

ATTENDANCE:

Attendance (including lateness) will be taken to evaluate class participation and to assist students that may have difficulty with content areas they may have missed. Although you are not given a grade for attendance, it does factor into those grades that are borderline. For example, a grade that is two points away from an A may be raised to an A if class was regularly attended.

CELL PHONES AND PAGERS:

Please silence and refrain from using cell phones and pagers during class.

LATE ASSIGNMENT POLICY:

I will accept late assignments; however, they will be docked 5% for each day late. I will not accept assignments any later than 2 weeks past the due date. I will not accept any late extra credit assignments.

EXAMS:

All exams will be given in class. There are two exams for the class. They are each worth 100 points. The second exam will be given during the scheduled final exam date. Exam make-ups will be given only for a valid, written, reason. The format of any make-up exam is at the discretion of the instructor. Cheating is not tolerated. Any act of cheating will result in the grade of zero (F) being assigned to the work.

CLASS SCHEDULE

Day	Topic	Assignment Due
Sep 3	Discuss Syllabus Introduction to Public and Community Health Research	
Sep 10	What Is Research Developing the Research Proposal	
Sep 17	Critical Review of the Literature and Information Sources Considering Ethics in Research	Web-Assignment (In-class)
Sep 24	Conducting Experimental and Quasi-Experimental Research	
Oct 1	Exam 1	
Oct 8	GMU Library Tour	
Oct 15	Sampling Designs and Techniques Data Collection Through Surveys and Self-Reports	Critique #1
Oct 22	Quantitative Research Evaluation Research	
Oct 29	Analytical Epidemiologic Studies	Computerized Lit-Search
Nov 5	Exam 2	
Nov 12	Analyzing and Interpreting Data: Descriptive Analysis Analyzing and Interpreting Data: Inferential Analysis	Program Evaluation
Nov 19	Techniques for Data Presentation Writing a Research Report	Critique #2
Nov 26	No Class – Thanksgiving Recess	
Dec 3	Wrap-up, finish research projects	
Dec 10	Poster presentations	Research Project
Dec 17	Exam 3	

ASSIGNMENTS:

Readings:

You are expected to keep up with the assigned readings. The required readings for each lecture will be given in class the week prior to the lecture.

Evaluation Project and Poster Presentation:

Using the concepts learned in the class, you will conduct a small evaluation project. The project will consist of:

1. Developing a research question and hypothesis
2. Determining the study design and evaluation and statistical techniques
3. Submitting a human subjects review application
4. Collecting data
5. Entering and analyzing data
6. Synthesizing your findings
7. Disseminating your data

Overview of Assignment

For this class, the evaluation project will be a learning experience and thus you will not be able to publish or disseminate your findings without further permission from the GMU Human Subject's Review Board. The goal of this assignment is for you to learn about the different stages in conducting a research project.

Developing a research question and hypothesis:

You will work on this project individually. Please think through developing a good research question and hypothesis. Ensure that the question is related to community and/or public health. Please consider the class as your participants. This will allow you to understand not only what it is like to collect data, but to be a participant in a study as well. You may want to answer such questions as:

1. Do women in the research class consume more calcium than men?
2. Do students born in Virginia make better grades than those not born in Virginia?
3. Do more women smoke than men in the research class?
4. Do students who live on campus walk more than those who live off campus?

Determining the research design:

To determine your research and evaluation design you need to think about the following questions: Are you doing a descriptive study, an experimental study, a quasi experimental study? What method of evaluation would be best for your project? Are you going to collect cross-sectional data or longitudinal data? Are you collecting qualitative data or quantitative data?

Submitting a human subjects review board application:

For all research involving humans, certain ethical standards need to be met. At George Mason University, we have a review board who reviews all research projects to ensure the safety and protection of the participants. For this project, you will need to submit an application and create a consent form. While you will not need to go through the full review for this project (it has been approved already as a classroom project), you do need to fill out the application as you would if you were doing a non-exempt research project.

Collecting Data:

For this part of the project you need to think ahead as much as you can. If you are creating a questionnaire, think about how the participant will interpret the question. If you are using a tool that has already been developed, make sure it is appropriate for this audience. Also think about creating a questionnaire that will be easy to code for faster data entry. We will learn more about this in class.

Entering and analyzing data:

If you collected quantitative data, you can use a database software or statistical package like SPSS to do the data analysis. We will learn more about this in class.

Synthesizing and disseminating your findings:

Poster presentations are an effective way to convey research results in a manner that is efficient and that maximizes opportunities for productive discussion between the author(s) and interested researchers. You will create a poster presentation that is suitable for a research conference.

Include the following in your presentation:

- Abstract: Summarize what you are presenting and the conclusions in a brief paragraph.
- Introduction: Introduce the topic and if you have any hypotheses about what you might find. Also define any terms here. Provide your research questions and hypotheses here as well.
- Literature Review: Summarize your findings from the 3 or 4 articles that you found on the topic.
- Methods: Describe your study design and how you collected the data.
- Discussion/Conclusions: Discuss what you have found and how that can relate to nursing or health science. Give any suggestions or critiques.
- Bibliography: Cite your articles using the APA (American Psychological Association) form.
Acknowledgements: Anyone you helped you with the project.

Make an initial sketch of your poster presentation. Use a standard folding project display board to mount your materials. Focus your attention on a few and important points. Graphs and diagrams provide a clearer statement of the research than tables. Use limited text to convey the essential information concerning the problem. Use a good size font so the poster can be read about 3 feet away (larger than 12 point). Headings should be in bold type. Heading letter size should be larger than the text. Use short, informative ("headline") style titles to state the essential point of each figure. Avoid abbreviations, acronyms, and jargon. Use consistent type styles and letter sizes throughout. Provide copies of the poster for distribution.

Critique Groups:

- Purpose: The purpose of this assignment is to practice analyzing and critiquing research articles that are appropriate to community and public health research.
 - Composition: Groups will consist of 2-4 class members who share common interests and schedules.
 - Reports: Each group will turn in two reports. You will choose 2 articles given in class. To complete the reports, answer the questions found in the "Guide for Research Critique" handed out in class.
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Program Evaluation:

Identify a public health report (on-line or print) that presents results of health research findings. You will then obtain the original source of the research (usually a peer-reviewed article). In a short (one-page or less) summary, you will critique the way in which the research findings were presented, answering the following questions:

1. Was the hypothesis or research objective clear in the media report and in the original article?
2. Was the study population appropriately described?
3. What evaluation model was used to justify the report?
4. Do you agree with the way the research results were described in the report? Why or why not?
5. Do you think there were any key details left out of the media report?
6. Do you think anything was misrepresented in the media report?

Please turn in the media report and original research report along with your one-page evaluation.

Web Assignment:

For this assignment, do a search involving a community/public health topic of your choice. Use any search engine you would like. I would suggest you use the poster presentation topic, but any topic of interest is fine. Choose two websites and browse through them. In one or two paragraphs, answer the following questions:

1. What are the website addresses?
 2. What search engine(s) did you use?
 3. What search term(s) did you use?
 4. Do these sites provide research regarding your topic? If not what do they provide?
 5. Do you believe these sites provide valid scientific information about the topic? Why or why not?
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Computerized Literature Search:

Find 2 articles that relate to your research topic. Note: this is not a group assignment, so when you work in your poster presentation groups, you will have from 8 to 10 articles from which to choose. It is to your advantage that each member of your group finds different articles.

For this assignment you must turn-in:

1. The bibliographic citation (and abstract if available).
2. A short paragraph that gives the following information:
 - a. The database used to find the citation.
 - b. The library where found (or at home), how did you obtain the article?