School of Allied Health and Life Sciences
Master of Public Health Program

Syllabus

PHC 6015 - Epidemiological Study Design and Statistical Methods

SEMESTER: Spring 2012

INSTRUCTOR: Dr. Justice Mbizo  e-mail: jmbizo@uwf.edu

CONTACT INFORMATION: Telephone: 850-474-2650

GRADUATE TEACHING ASSISTANT: Erica Holland, B.A., MPHe enh3@students.uwf.edu

COMMUNICATION:

1. ALL E-MAILS AND DISCUSSION POSTINGS WILL BE ANSWERED WITHIN 48 HOURS BUT USUALLY LESS, EXCEPT DURING WEEKENDS IN WHICH CASE SUCH POSTINGS OR EMAILS WILL BE RESPONDED TO WITHIN 72 HOURS.
2. THE SUBJECT LINE OF ALL EMAILS SHOULD INCLUDE THE COURSE PREFIX AND NUMBER
3. ALL ASSIGNMENTS AND EXAMS ARE DUE ON THE DATE INDICATED FOR THAT ASSIGNMENT.
4. PLEASE INCLUDE BOTH THE INSTRUCTOR AND GTA IN ALL E-MAIL COMMUNICATIONS

Prerequisites: None.
Credit Type: Hours: 3.0

Course Overview: Public Health applications require knowledge of research methodology, design, and statistical methods. Public health professionals must be critical consumers of public health research and are likely to generate public health research data as well. This course will serve as a foundation in research design and methods, as well as an overview of statistical applications in public health and epidemiology. The Master’s in Public Health degree will benefit the University by providing the Northwest Florida community with a stream of professionals trained in an area that is both highly desired in the local health community and currently unavailable in the local region.

Course Description:
The course covers research design and methods in public health and epidemiology. Experimental, quasi-experimental, observational, survey, surveillance, and qualitative study
designs will be reviewed. Methods for reliable and valid data collection and analysis will be covered. An overview of statistical methods for the analysis of public health data will be covered. This course is completely online. This course is part of the Master of Public Health degree program.

Student Learning Outcomes: By the end of this course, students should be able to:

1. Discuss epidemiologic and etiologic goals of public health research.
2. State and develop a testable research question.
3. State and develop a testable research hypothesis to answer a public health problem.
4. Articulately describe the ways for selecting a sample for each study designs
5. Discuss the advantages and disadvantages of each study design covered in the course.
6. Identify and describe major research designs and methods used in public health.
7. Critically evaluate the public health literature with respect to study design, statistical analysis, and interpretation of results
8. Differentiate among experimental, quasi-experimental, correlational, and observational study designs and methods.
9. Explain methods for assuring internal and external validity in research design.
10. Differentiate among statistical analysis procedures to be able to apply appropriate statistical tests for different levels of data and study designs.

Topics to be discussed covered include:

- History of public health research methods
- Epidemiologic and etiologic objectives of public health research
- Research methods in public health
- Overview of Study Designs
- Cohort Study Designs
- Case Control Study Designs
- Cross-Sectional Study Designs
- Randomized /Community Trials
- Sources of Data
- Reliability and Validity
- Sampling and selection
- Confounding and experimental control
- Ethical issues in public health research

Required Text(s)

Jones and Bartlett Publishers

Additional required readings will be provided from secondary sources. Please pay attention to the module opening pages and assignments listed under each module.
Other Suggested Readings Optional (Assigned Chapters will be placed on e-reserve)


Grading/Evaluation

Grades will be assigned based upon performance on four (4) article critiques in the form of quizzes, four (4) exams, a research design proposal, and online classroom attendance and participation (each student will critique and discuss a journal article) according to the following weights:

Assignments [Article Critique (4)] 25%
Exams (4) 25%
Research paper 40%
Attendance and participation* 10% (includes Discussion)

* Course participation will be assessed in this course. In order to make the discussions meaningful, each student will critique a peer reviewed public health journal article and use the series of questions provided in the course as a guide to appraise the selected paper. You will be expected to respond in an intelligent manner to other students’ postings and provide feedback to questions raised in regard to your specific article critique. More detailed instructions and the grading rubric for the discussions are provided under the ‘Discussion Instruction’ section of the Content tab in the course page.

The following grading scale will be used to determine final grades:

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\begin{align*}
A &= 95 - 100 \\
B+ &= 85 - 90 \\
C+ &= 75 - 80 \\
A^- &= 91 - 94 \\
B^- &= 81 - 84 \\
C &= 70 - 74 \\
F &= < 70
\end{align*}
\]
Skills Matrix: As you go through the course, consider this matrix and the effort that you devote to every assignment.

<table>
<thead>
<tr>
<th>SKILL MASTERY LEVEL</th>
<th>CONTENT AND CRITICAL THINKING</th>
<th>COMMUNICATION</th>
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<tbody>
<tr>
<td><strong>Exceeds Expectations</strong></td>
<td>The student has a clear understanding of, and an ability to apply, the principles of epidemiological methods, including design, sampling techniques and appropriate statistical methods expected at the graduate level consistently.</td>
<td>The student shows a clear expression of ideas in writing with proper spelling, grammar and technical ability to integrate and articulate ideas into an actionable plan for scientific epidemiology research with consistency. The student follows through with instructor recommendations on improving his/her work.</td>
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<tr>
<td><strong>Meets Expectations</strong></td>
<td>The student has a basic understanding of, and an ability to apply, the principles of epidemiological methods, including design, sampling techniques and appropriate statistical methods expected at the graduate level.</td>
<td>The student shows the basic skills to express ideas in writing with proper spelling, grammar and technical ability to integrate and articulate ideas into an actionable plan for basic epidemiological research. The student most of the times follows through with instructor recommendations on improving his/her work.</td>
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<td><strong>Below Expectations</strong></td>
<td>Student has a critical inability to grasp and apply the principles of epidemiological methods, including design, sampling techniques and appropriate statistical methods expected at the graduate level.</td>
<td>Student maintains a lack of adherence to technical writing style and skills, uses improper grammar and spelling, and has an inability to clearly express ideas in writing, to integrate and articulate those ideas into a coherent prospectus for epidemiological research. The student does not follow through with instructor recommendations on improving his/her work.</td>
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EXPECTATIONS FOR ACADEMIC CONDUCT/PLAGIARISM POLICY:

Due to the distance learning nature of this course, all requirements must be completed within the time scheduled, unless prior arrangements are made with the instructor. Participation in online forum discussions will be graded using this Discussion Forum Grading Rubric. Your final grade will be determined by the points you accumulate within each category, divided by the total points available within that category. These scores will then be weighted based upon the percentages indicated above to determine your final grade. Online facilities will be provided so students can monitor their own progress.

EXPECTATIONS FOR ACADEMIC CONDUCT/PLAGIARISM POLICY:

- Academic Conduct Policy
- Plagiarism Policy
- Student Handbook

It is the philosophy of The University of West Florida that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline may include suspension or expulsion from the University. Scholastic dishonesty includes but is not limited to cheating, plagiarism, collusion, and the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts.

In addition, any behavior that interferes with the conduct of a class is classified as disruptive behavior and will not be tolerated. Although not exhaustive, examples of disruptive behavior would include: inappropriate or threatening online postings or e-mails, etc.

QUALITY ASSURANCE:

This course is reviewed during the semester and in an ongoing basis for quality by assessment personnel within the School of Allied Health and Life Sciences (SAHLS) to meet national standards established by the Southern Association of Colleges and Schools, the Council on Education for Public Health, and/or to address quality enhancement initiatives of SAHLS. Student feedback is also vital to this process. When reviewing our programs, our accrediting partners expect to see 100% participation in the State-of-Florida mandated SUSSAI (State University System Student Assessment of Instruction) evaluations. Thus, at the end of the semester, we need to hear from the folks that enjoyed the class and from the folks that have suggestions for improvement (ok, and from the folks that want to fill out the survey as quickly as possible with no comments to share!). BUT, we do need to hear from each and every student in this class, and we value your input.

When SUSSAI evaluations are ready for you to complete, you will see a News posting in the course. Please take a few minutes to complete this anonymous, brief web-based evaluation on this course, using these directions:

Step 1: Log in to Argus (http://my.uwf.edu). [argus.uwf.edu is going away January 17, 2012]
Step 2: Click on the "My Info" tab.
Step 3: Click the link under the category "Personal Student Record Access" that says "Instruction Assessment (Distance Learning). Need help? Contact Connie Works at (850) 474-3080 or cworks@uwf.edu for assistance!

Please be assured that all evaluations that are completed online are of a confidential matter. Your name, social security number, and e-mail address will not be revealed to your instructor, department, or college. Only one evaluation per course per student can be submitted. Please do not delay completing the evaluation when the time approaches. Due to the significance of this information, I will not be able to pre-release grades in eLearning if we are not close to the 100% participation goal before finals week. Thank you!

ONLINE TEST TAKING GUIDELINES:

Please do not begin any timed, online exam in the course that may overlap with the eLearning maintenance window. The eLearning maintenance window runs 3:00-6:00 am CST (Central Standard Time) each day. If you initiate an exam that overlaps with this time and experience any technical errors, your recorded score is likely to be close to 0 for such an attempt. There are no exceptions to this policy.

If you experience any other technical problems or errors during any timed exam that does not overlap with the eLearning maintenance window, you are required to notify the Helpdesk immediately at helpdesk@uwf.edu or (850) 474-2075. Failure to contact the HelpDesk to report the problem will result in a grade of 0 automatically being assigned. If you are unable to get immediate assistance from the HelpDesk during the exam, but have documented the problem in an email or voice mail, you may attempt to restart the exam using the same browser, or attempt to re-enter the exam with another browser. If you are still unable to restart the exam and continue with saving, please note that for your final submitted score to be recorded, you MUST still prove that you documented the original technical problem with the HelpDesk via helpdesk@uwf.edu or (850) 474-2075. Failure to do so will result in an automatic grade of 0 being assigned.

ASSISTANCE:

Students with special needs who require specific examination-related or other course-related accommodations should contact Disabled Student Services (DSS), dss@uwf.edu, (850) 474-2387. DSS will provide the student with a letter for the instructor that will specify any recommended accommodations.

Every effort will be made to accommodate the special needs of disabled students. Please inform the instructor privately during the first week of class to indicate your particular needs. All such accommodations are officially arranged through the Office for Disabled Student Services and a letter from this office must accompany your request.