

**Western Kentucky University
Department of Public Health**

**Course Syllabus
PH630: Advanced Epidemiology
Fall 2020**

Lecture Format: Web-based (Online through Blackboard Learning Management)

Instructor Information

Instructor: Dr. Xiuhua Ding

Office Location: Academic Complex 127C

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Office Phone: 270-745-3618

Office Hours: Tuesdays & Thursdays 1:00 pm-4:00pm through zoom or phone and by E-mail appointment. Email is the best way to reach me. I try to respond to all emails within 24 hours (48 over weekends). If you've not heard back from me by then, please re-email me. Please put the course name in the subject line. See course site for additional details on how to reach me.

Pre-requisites

PH582 or consent of instructor

Text (optional)

Epidemiology: Beyond the Basics, Third Edition (paperback)

Moses Szklo, MD, DrPH, Johns Hopkins School of Public Health, Javier Nieto, MD, PhD, University of Wisconsin Medical School, Wisconsin Publication Date: October 24, 2012 | ISBN-10: 1449604692 | ISBN-13: 978-1449604691 | Edition: 3

Course description

The course is an extension of first epidemiologic class (PH582) and provides students hand-on experiences to apply epidemiological concepts and measurements learned in PH582. The students will be expected to analyze data from major epidemiological study designs, apply methods to evaluate confounding and interaction variables, Interpret and report results from their analysis. Students also learn to address bias and errors in the design of population-based health research, and evaluate evidence from epidemiologic studies from a systematic approach as it relates to demonstrating causality be emphasized. The course focuses on study design, measures of associations, confounding, interaction, sources of bias and error. Students will gain an understanding of epidemiology and its role in the medical and public health sciences.

Course Objectives

After completion of this course in Advanced Epidemiology the student will be able to:

1. Distinguish among different approaches to measuring disease frequency, association, and impact, and apply appropriate measures to various study designs.
2. Evaluate the potential for confounding and interaction in epidemiologic data and propose several approaches for addressing these validity issues in epidemiologic research.
3. Perform and interpret stratified analysis of epidemiologic data for point and interval estimation of measures of association for typical study designs.
4. Compare and contrast interpretation, strengths, limitations associated with using various statistical modeling procedures for the analysis of epidemiologic data.

Blackboard

All course materials will be posted on the Western Kentucky University Blackboard, at <https://www.wku.edu/it/blackboard/>. To log in to Blackboard, you must use your active directory account. The Blackboard environment will allow the instructor to make general announcements to the class through the announcements frame or the e-mail facility. It is recommended that you check in at Blackboard at least once early.

Assessments

There are no exams for this course. Students will be evaluated based on 1) Ten (10) weekly assignments; 2) Three (3) written research reports (two mini-reports and one final report).

1) Weekly Assignments

Students will have one assignment every week. These assignments are designed to apply epidemiologic concepts and provide students hand-on data analysis experience, and assignments will help students finish their mini- reports and final research report. Weekly assignments requires to use SAS, and you are encouraged and welcomed to discussed with other students and seek help from me. However, your assignments should be your “own” work. Plagiarism is not tolerated in this course.

2) Written Research reports(two mini-reports and one final report)

The course requires you to apply epidemiologic concepts and analytic techniques through a “real dataset”. The primary objective of the course is to provide you with hand-on experience in applying epidemiologic concepts, interpretation and presentation of epidemiologic data through real world data. The instructor will be selecting one dataset which will be used for weekly assignments and written research reports through the whole semester. The dataset will be accessible in Blackboard as a SAS file.

If you work with other data analysis packages, we can also convert these files as needed. Documentation of the variables in the dataset and guidance regarding the data collection procedures to generate the dataset will be given.

Instead of having exams, you are required to provide **three** (3) written reports (two mini-

reports and one final report) which incorporates the methods and results of your statistical analysis of the dataset used for the class. The final report should be in the form of a brief manuscript. Detailed instruction for these report will be provided in the blackboard.

This course and the project are premised on the conviction that the best way to learn about and apply epidemiologic concept and data analysis is to *DO* it—not just read about it. Since there are numerous different computers, operating systems, and statistical software packages for performing data analysis, this course cannot, of necessity, focus on all the technical details regarding reading data files and operating the software. The class will provide sessions, online activities, and assignments to teach and assist students to use SAS.

Grading

Assignments and Reports	Points
Weekly Assignments(50 points *10)	500
Written research Reports	500
#1 Mini report	150
#2 Mini report	150
#3 Final Report	200
TOTAL	1000

Letter grades for the course will be assigned on a percentage basis (as given below) for the student's total score as a percentage of the total number of points possible for the course.

Grade	%	Points (3 credit)
A	90-100	900-
B	80-89	800-899
C	70-79	700-799
D	60-69	600-699
F	< 60	< 600

Instructor expectations

1. I expect you to participate every class session in a timely manner. The components are highly interrelated; missing a class will detract from the learning potential of subsequent sessions.
2. I expect (and encourage) you to provide honest and timely feedback regarding the content and process of this course throughout the semester.
3. I expect you to share in the responsibility for making this course an enjoyable and beneficial learning experience.

Academic Integrity

Students are expected to abide by the WKU Student Code of Conduct. WKU has **zero** tolerance for academic dishonesty. All assignments and exams are to be completed by you, the student. Any observed cheating will be dealt with in accordance with WKU policies. Plagiarism cannot be tolerated in this course. Please note that every student's assignment submitted or posted on Blackboard may be checked using a variety of plagiarism detection software.

Students with Disabilities

In compliance with university policy, students with disabilities who require accommodations (academic adjustments, and/or auxiliary aids or services) for this course must contact the Office for Student Disability Services in Downing University Center A 200. The phone number is 270-745-5004; TTY is 270-745-3030. Per university policy, please DO NOT request accommodations directly from the professor or instructor without a letter of accommodation from the OFSDS."

Complaints

Students with suggestions or complaints should see me first, and if we cannot come to an agreement, I will direct you to the head of the department.

Title IX Sexual Misconduct/Assault

Western Kentucky University (WKU) is committed to supporting faculty, staff and students by upholding

WKU's Title IX Sexual Misconduct/Assault Policy (#0.2070) at

<https://wku.edu/eoo/documents/titleix/wkutitleixpolicyandgrievanceprocedure.pdf> and

Discrimination and Harassment Policy (#0.2040) at

Under these policies, discrimination, harassment and/or sexual misconduct based on sex/gender are prohibited. If you experience an incident of sex/gender-based discrimination, harassment and/or sexual misconduct, you are encouraged to report it to the Title IX Coordinator, Andrea Anderson, 270-745-5398 or Title IX Investigators, Michael Crowe, 270-745-5429 or Joshua Hayes, 270-745-5121.

Please note that while you may report an incident of sex/gender based discrimination, harassment and/or sexual misconduct to a faculty member, WKU faculty are “Responsible Employees” of the University and **MUST** report what you share to WKU’s Title IX Coordinator or Title IX Investigator. If you would like to speak with someone who may be able to afford you confidentiality, you may contact WKU’s Counseling and Testing Center at 270-745-3159.

Religious Observances

Students will be given the opportunity to make up work (typically, exams or assignments) when students notify their instructor that religious observances prevent the student from completing assignments according to deadlines stated in this syllabus. Students must notify the course instructor at least two weeks prior to such an absence and propose how to make up the missed academic work.

Class Policies:

1. If you have a cell phone it is to be off during class time.
2. All assignments are due by the date and time listed in the syllabus unless otherwise noted. Assignments will not be accepted beyond the time they are due.
3. The Professor must be contacted prior to any due date to negotiate any alternative arrangements.
4. Additional assignments for extra credit will not be given, please don’t ask.
5. Attendance is checked time to time.
6. The Professor must be notified by e-mail or telephone if the student is unable to attend prior to the start of class.
7. It’s the student’s responsibility to get class notes and catch up with any missed work. It is assumed that assigned readings and assignments will be done prior to class.
8. All work must be submitted to the instructor on blackboard.
9. All rebuts to grades earned must be made in writing and turned in within one week after receiving the grade.
10. Any evidence of academic misconduct shall be treated in accordance with the college/university rules and procedures.