Course Syllabus: Epidemiology (CRN#: 16743; MICR4329)

Classroom: BUSN 331  
Instructor: Jianying Zhang, MD, M.P.H., Ph.D.  
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Class Hours: TR 3:00-4:20 pm  
Office Hours: TR 1:30-2:30 pm  
Class Email Account: epidemiologyclass@yahoo.com

Required Materials  

Course Description  
Epidemiology is the study of the distribution and determinants of health-related states or events in specified populations and the application of this study to the control of health problems. The course will follow closely the book, Epidemiology, by Leon Gordis and will feature in-person lectures that rely exclusively on Microsoft PowerPoint 2010 animated text and graphics, presented in class with a computer projector. This course will guide you in learning the basic concepts, principles, and methods of population-based epidemiologic research. Special emphasis will be given to measuring the occurrence of disease, study design, data quality, and causal inference. Discussion sessions will focus on health problems that are making news, and ways that epidemiology is being used to address these problems.

Course Objectives  
1. To understand the basic concepts, principles, and methods of epidemiologic research.  
2. To develop a unified methodologic framework for understanding, planning, and evaluating epidemiologic studies and for assimilating new research methods.  
3. To recognize the difference between epidemiologic research, basic or clinical research.  
4. To be able to read and evaluate the epidemiologic literature critically in any specific substantive area of interest.

Attendance  
Attendance in this course is critical to your success. Not only attending lecture aid in your understanding of course material, attendance is mandatory.

Evaluation  
Three quizzes and one final examination will be given for this course. The final examination will be comprehensive, covering all reading and lectures, and will be given during the last week of this semester.

The exercises (Review Questions) that accompany each chapter will be given. The exercises encourage students to immediately use their newly acquired knowledge and, thus, by practice, improve retention.

Using journal articles from the medical literatures, several projects will require you to ascertain the study objectives, target population, and especially the study design. Your papers must be typed and double-spaced. No hand written papers will be accepted. Later papers will receive a 10% deduction in points for each day (including non-class days) they are late. If you absolutely cannot make it to class on the day your paper is due, you may email your assignment to me with an attachment.
Grading
Your grade in this course is based on a combination of exam, projects, presentation and participation in class. Grades are based on a straight percentage scale; there is no curve and no +/- grades are awarded. So, an A=100-90%, a B=89.9-80%, a C=79.9-70%, a D=69.9-60%, and F=<60%.

Quizzes: 120 points
Projects: 200 points
Final Exam: 140 points
Class Participation & Attendance: 40 points
Course Total: 500 points

The following schedule is tentative, and the dates of lectures and/or class discussions may be changed.
1st week: Introduction
   The Dynamics of Disease Transmission
2nd week: Investigating an Outbreak
   Measuring the Occurrence of Disease
3rd week: Measuring the Occurrence of Disease
   Natural History of Disease
4th week: Quiz 1
   Diagnostic and Screening Test
5th week: Randomized Trials
   Randomized Trials
6th week: Cohort Studies
   Cohort Studies
7th week: Quiz 2
   Case-Control Studies
8th week: Cross-Sectional Studies
   Estimating Risk & More on Risk
9th week: Comparing Cohort and Case-Control Studies
   From Association to Causation & More on Causal Inferences
10th week: Molecular Epidemiology
   Cancer Epidemiology
11th week: Quiz 3
   Project Presentation
12th week: Project Presentation
13th week: Project Presentation
14th week: Project Presentation
15th week: Project Presentation
16th week: Final Examination