Cross-listed Course Syllabus:

Selective Adv. Topics Biol. Science: Epidemiology (CRN#: 24869; BIOL5301-029)

Instructor: Jianying Zhang, MD, M.P.H., Ph.D.
Email: jzhang@utep.edu
Phone: 915-747-6995 (O);
Online Class Hours: MW 4:30-5:50 pm

Required Materials
Gordis, L., Epidemiology (ISBN: 9781455737338), Elsevier Saunders Co., Philadelphia, 5th Ed., 2013.

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 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
One midterm 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%.

Midterm Exam: 70 points
Projects: 200 points
Presentations: 50 points
Final Exam: 80points
Course Total: 400 points

The following schedule is tentative, and the dates of lectures and/ or class discussions may be changed.
1st week: Introduction

2nd week: The Dynamics of Disease Transmission

3rd week: Measuring the Occurrence of Disease

4th week: Investigating an Outbreak
Natural History of Disease

5th week: Diagnostic and Screening Test

6th week: Randomized Trials

7th week: Cancer Epidemiology
Project Presentation

8th week: Project Presentation
Midterm **Exam**

9th week: Spring Break (no class)

10th week: Cohort Studies & Case-Control Studies

11th week: Cross-Sectional Studies
Estimating Risk & More on Risk

12th week: Molecular Epidemiology
Comparing Cohort and Case-Control Studies

13th week: From Association to Causation & More on Causal Inferences

14th week: Project Presentation

15th week: Project Presentation

16th week: Project Presentation

17th week: **Final Examination**