# Epidemiology (BIOL 303) Syllabus Fall 2012

**Professor**: Dr. Sabrina Mueller-Spitz
**Office**: HS 151
**Contact Info:** muellesr@uwosh.edu 920-424-1104
**Office Hours**: Monday 9:10-10:30 am & Friday 1:50-3:30 pm. Other times are by appointment.
**Lecture:** WF 11:30-12:30, Halsey 367
**Course Readings:** Electronic textbooks and various primary literature papers will be used.

**Course Description:** This was a course created for the environmental health majors. It also serves as an elective for biology and microbiology majors. This course provides a foundation of topics in epidemiology through examining infectious disease, chronic diseases, and "good" health. Students will learn about real world health problems and how epidemiology is used to better understand, prevent, and treat these "health states". Prerequisite: Biology 105.

**Course Objectives:** Define epidemiology and explain the importance of this field in improving the overall health of the global population. The fundamentals will be applied to understanding distribution and determinants of infectious and chronic disease. Critically evaluate epidemiology in the media and the science behind these studies to better understand your "risk" in developing a chronic disease, infectious disease or preventing a negative health outcome. This will be accomplished by classes based discussions and a written analysis of current primary literature in the field of epidemiology.
Understand the contribution of social, economic, genetic, environmental and cultural factors (e.g. urbanization, transportation, agricultural, manufacturing, energy production, etc.) that are associated with disease development, treatment, and prevention.

| Course Topics | Readings |
|---|---|
| Foundations of Epidemiology | Understanding the Fundamentals of Epidemiology Ch 1 & Ch 2 |
| Infectious Disease Epidemiology<br>Triangle & Transmission<br>Emerging & Remerging Infectious Disease<br>Outbreak/Epidemic Investigations<br>Control & Prevention | Infectious Diseases: A Geographic Guide ** Ch 2 and 3<br>Emerging Infectious Diseases : A Guide to Diseases, Causative Agents, and Surveillance Ch 1 |
| Measures in Epidemiology<br>Morbidity & Mortality<br>Population Statistics<br>Risk | Understanding the Fundamentals of Epi Ch 5<br>Population Doom or Vroom (Science paper)<br>Health Research Methodology Ch 7 & Ch 9 |
| Epidemiology Study Types/Design<br>Descriptive Studies<br>Analytical Studies<br>Experimental and Clinical Studies | Health Research Methodology Ch 3<br>Health Research Methodology Ch 4<br>Understanding the Fundamentals of Epi Ch 8 |
| Specialties of Epidemiology<br>Environmental Epidemiology<br>Occupational Epidemiology<br>Molecular Epidemiology<br>Social Aspects of Epidemiology | Additional Papers will be posted on D2L for this section. |

* * Infectious diseases a geographic guide / [edited by] Eskild Petersen, Lin H. Chen, Patricia Schlagenhauf-Lawlor is an e-book available from Polk Library (call number RA643 .I54 2011eb).
* Emerging Infectious Diseases : A Guide to Diseases, Causative Agents, and Surveillance by L. Beltz is an e-book available from Polk Library (call number RA643 .B45 2011eb). The topic order could change. If there is a specific topic that you would like to included in the course topics, please feel free to share this information with me, so I can best address the interests and needs of the students in the class.

**Graded Course Items:**

- There will be **three** exams that will focus on application of the concepts from the lecture material, paper/data interpretation, and analysis of the field of epidemiology. **(56.25 % of final grade= 225 points)**

- There will be in-class daily activities/homework as the semester proceeds, which will be used to determine attendance, contribution to the class environment, analysis of epidemiology data, and application of core concepts. These activities will include group discussions of in-class questions, sharing information gathered about topic associated with previous course material, short quizzes, and homework assignments. **(25% of final grade=100 points)**

- There will be **three** discussions of current topics in epidemiology. Each student who is responsible for reading the primary literature papers and participating in the class discussion. **(3.75% of final grade=15 points)**

- There will be a literature analysis about a health topic of your choice. **The goal of this assignment is to CRITICALLY address how epidemiology topics are presented to the public in the news, magazine articles, and on the web by analyzing primary scientific literature and writing your own interpretation of the topic**. The core element of this project is how medically relevant science is CLEARLY portrayed to an educated public. The details of the project are posted on D2L. **(15 % of final grade=60 points)**

| **Important Dates for the Course** | |
|---|---|
| **Date** | **Event** |
| September 26rd | Computer Lab Swart Lab 229A: Population Data |
| September 28th | Discussion #1 |
| **October 3rd** | **Exam 1** |
| October 19th | Computer Lab Halsey 101: Descriptive Data Analysis: Smoke-Free Campus |
| October 20th | **Topic Choice for Epidemiology Project** |
| November 2nd | Discussion #2 |
| November 7th | Submit Collection of Papers for Epidemiology Project |
| **November 9th** | **Exam 2** |
| November 19th | Rough Draft or Outline of News Story (optional) |
| November 26th | Discussion #3 |
| December 5th | Health News Story |
| December 12 &14th | Expert Panel Discussions |
| **December 14th** | **Exam 3 Due** |

**Grading Scale**:

| | | | |
|---|---|---|---|
| 93-100 % | A | 71-76.9 % | C |
| 90-92.9 % | A- | 69-70.9 % | C- |
| 87-89.9 % | B+ | 67-68.9 % | D+ |
| 82-86.9 % | B | 61-66.9 % | D |
| 81.9-80 % | B- | 60.9-60 % | D - |

| | | | |
|---|---|---|---|
| 77-79.9 % | C+ | less than 60 | F |

**Course Policies:**

Exams: Graded exams will be handed back approximately one week after the scheduled date of the exam, providing the professor sufficient time to grade the short answer exams. There are no make-up exams! If a student misses an exam because of extreme circumstance such as death of a close relative or a documented medical excuse, the student will be allowed to take a make-up exam. The student must talk with the professor immediately following missed exam to schedule a make-up (your responsibility). However just missing an exam does not warrant a make-up exam.

Homework Assignments & Epidemiology Project: These assignments **MUST BE** submitted on D2L's drop box as a word document (e.g. .doc or .docx file) to receive full credit. These assignments will be graded for how the topic is presented, writing style, grammar/spelling, and inclusion of references (correctly cited reference and a PDF of the paper). ***Late assignments will be accepted with a loss of 10% of the point total per day the assignment is late.*** A separate late dropbox will be created for all late assignments.

Class discussions: Grading will be based upon on participation in the discussion of the assigned paper(s). If you do not contribute to the discussion in a constructive manner, this will be considered a ZERO for participation.

Academic Dishonesty: Cheating on an exam, plagiarizing (e.g. using information from a website, textbook, journal article, or public press without a citation), or any other form of academic dishonesty will be dealt with in accordance with the current UWO Student Discipline Code section 14. **Academic dishonesty could result in the instructor assigning a grade of "F" for the course should circumstances warrant**. **I TAKE ACADEMIC MISCONDUCT VERY SERIOUSLY**. If you have any questions when working on assignments for this class or any other please come. **REMEMBER WHEN IN DOUBT CITE THE SOURCE.**

Email: When contacting me by email include the course number (Biol 303) in the Subject line to make sure that your email receives a response in a timely manner. If I am unable to understand the content or context of your email, I will not respond, so please send a detailed message. Emails that are received after 5 pm on weekdays and over the weekend may not be responded to until the next business day.

Mobile Devices**:** Turn off all **cell phones**, mp3players, or any other device that can be distracting to classmate prior to lecture. **Any mobile device use during class, will result in a loss of 20 points from your final point total.**