Infectious Diseases Evolution  
Fall, 2015  
BIOL-5301

INSTRUCTOR: Dr. Charles Spencer, Department of Biological Sciences  
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OFFICE HOURS: Mon & Wed 10:00-12:00  
LECTURE: Wed 1:00-3:50, HSSN 213  
TEXTBOOK: Primary literature

COURSE OBJECTIVES
This course is intended to expose students in the biomedical and medical fields to the interactions between hosts and pathogens. The main objective of this class is to develop the students’ understanding of how hosts and infectious microbes have co-evolved and continue to evolve as each adapts to the other. The topics of infection, evasion, suppression and compromise will be discussed relative to the development of the immune response in immunologically and genetically diverse populations. This will be a theoretical/practical discussion class based upon the principals of microbiology, epidemiology and evolution.

TOPICS FOR DISCUSSION
1. Principles of Evolution  
2. Conditions that allowed for the emergence of human pathogens  
3. Co-evolution of pathogens and humans  
4. Re-/New emerging pathogens  
5. Antibiotic resistance  
6. Immune evasion  
7. Vaccine evasion

ACADEMIC DISHONESTY. It is the official policy of the University of Texas at El Paso that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. Scholastic dishonesty includes, but is not limited to cheating, plagiarism, collusion, 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. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Please see http://www.studentaffairs.utep.edu for details

DISABILITIES. If you have or suspect you have a disability and need an accommodation, please contact the Center for Accommodations and Support Services (CASS) at 747-5148, at cass@utep.edu or go to Union Building East, Room 106.
BLACKBOARD. I will post many materials for this course on Blackboard. It is your responsibility to download anything required for the class session and to bring it with you to class. I strongly recommend that you visit the course Blackboard site often.

COURTESY. As a courtesy to your classmates, please give your full attention to all speakers and limit your in-class discussions to topics related to pathogenic microbiology. Cell-phones and pagers must be turned off during class sessions. The use of laptop or notebook computers or tablets during class sessions is limited to note-taking and coursework only – please refrain from browsing the internet or checking your email during class. Please be on time for class – roll may be taken at the start of each class.

MISSED ASSIGNMENTS. If you know ahead of time that you will not be present on the scheduled date, notify me and I will allow you an alternative, with no penalty. If you miss an assignment and you can provide PROOF for your (reasonable) absence, the assignment will be rescheduled at my convenience. If you miss an assignment, and you cannot provide proof for your absence, there will be NO make-ups!!

GRADING. Your grades will be based on your successful completion of your assignments to my satisfaction and your final project. Assignments will be given for each section and will consist of a grant style manuscript for you chosen pathogen. The final assignment will be a publication style manuscript reporting the “findings” of your grant efforts. Topics of the assignments will include:

1) Epidemiology
2) Immunological responses
3) Virulence modification
4) Emergence
5) Immune evasion
6) Vaccine modification
7) Therapeutic resistance

Each grant will constitute 10% of your grade and the final assignment will be 20%. The remaining 10% will be for your presence and participation in class.

IN-CLASS PARTICIPATION. All students are expected to be present and to participate in class discussions. You should be prepared each week to provide examples of the discussion topic relevant to your pathogen of interest. This means you should consult the course calendar and prepare yourself ahead of time. This information will also be incorporated into your grants.