Infectious Disease:

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As an introduction to infectious diseases, we will begin with an overview of the variety of infectious agents, their biology and their epidemiology. You will study representative examples of diseases caused by each type of infectious agent (bacteria, virus etc..) and the challenges we face in combating them. The lab component of the course will include microscopy, bacterial growth and antibiotic resistance, sterile technique and applications of DNA technology to the study of infectious disease. The second half of the course will focus on our defenses. This includes a broad spectrum from global organizations, national, state and local agencies, and finally, our own bodies – our immune system. We will also explore various aspects of the field of epidemiology using case studies and readings which illustrate the interdisciplinary nature of this science.

***Books and Materials***:

* Killer Germs: Microbes and Diseases that Threaten Humanity, by Barry E. and David J. Zimmerman, Rev 2003.
* One book TBD to be purchased or borrowed for long term project
* Materials: 3-ring binder (1 inch), highlighter, calculator

***Course Outline and Objectives***:

I. What is meant by the term “infectious disease”?

II. Historical perspectives on the study of infectious disease (ID).

III. Descriptions of the structure and biology of the various forms in infectious agents.

IV. Methods used to study bacteria:

* Sterile laboratory technique, microscopy, Gram staining, growth on selective media and applications of DNA technology.

V. What are our defenses against ID?

* Global organizations as well as local, family and individual responsibilities.
* The Immune system and our body defenses.
* Vaccines and antibiotics and other drugs used to combat ID.

VI. Cultural, social and legal issues related to our response to infectious disease.

VII. What is involved in the study of epidemiology?

* How do statistical data help us understand the nature and progress of an infectious disease in a population?
* What is the difference between and epidemic and a pandemic?
* What are the various roles of epidemiologists?
* How do ecological changes affect the spread of infectious disease?

***Expectations:***

* Be respectful, on time and prepared for all classes!
* Homework may be corrected/revised for half credit back unless we have gone over it in class. In that case, you may not re-do the assignment. This will be due the next class period or as discussed in class.
* Late homework will lose 10% credit per day and may not be revised for a better grade.
* *Grading: Your grade will be determined by averaging grades based on a variety of assignments including tests, quizzes, reading questions, projects and labs.*
* *Please contact me if you are confused or have any questions or problems so that we can solve issues before they become major!*
* *Extra help available by appointment.*