Introduction

The living world to which we are accustomed seems dominated by large and conspicuous organisms, namely the animals and plants. But this is an illusion. Despite their invisibility, it turns out that microorganisms (microbes) are the dominant organisms on Earth, and have had an immeasurable impact not only on human history, but also on the much longer history of life itself. Microbes are not only all around us, but are on us, within us, and are in fact part of us. For obvious reasons, the aspect of microbiology that captures our most immediate attention is infectious disease. For most of history (and frustratingly, even now, among the less informed) infectious disease has been a mystery. But since the emergence of the Germ Theory of Disease in the late 19th century, it is recognized that infectious diseases are not caused by bad air, bad behavior, bad luck, curses, or divine punishment, but are instead caused by microbes. The devastating plagues that have beleaguered humankind since prehistoric times (and still do) have arguably done as much to alter the course of history as conquering armies have. This course will examine diseases such as the Plague, malaria, yellow fever, smallpox, influenza, AIDS, and a host of others (including some infectious agents that are not microbes at all). We will examine not only the causes of these diseases, but also their broader implications on society. These vanishingly small entities have either aided or thwarted the best efforts of humankind, and as a consequence, have shaped the global sociopolitical and economic landscape in ways that are too often unappreciated.

Course Requirements

The class will include reading, student presentations, roundtable discussions, and writing.

1. Discussions will be based on assigned reading and on presentations (see #2)
2. Each student will present a topic to the class, as well as writing a term paper on their topic.
3. Writing assignments will be based on reading and presentations, and will consist of a short analysis of each topic.

Grades will be based on a combination of term paper (25%), presentation (25%), written summaries (25%), and participation (25%). An important point: Your presentation should be effective at communicating the information, but you need not be a great orator or an entertainer. Similarly, you need not have an extroverted personality to meaningfully contribute to discussions.

Details:
Each student will write a term paper (approximately 10 pages, double-spaced, with appropriate references) on a disease-related topic. You will get your topic in the first week. In order to give me time
to read them, I am asking that the term papers be submitted by spring break. This also gives you time to make revisions, if necessary. Student presentations will start the 7th week, to give us time to get through all of them. The ideal format for presentations is PowerPoint. Your PowerPoint presentation should be submitted to me, as well.

D2L dropboxes will be set up for submission of weekly summaries, term papers, and PowerPoints. Round table discussions will be based on student presentations and on the reading. (Discussion is sometimes the hardest thing to make happen.) Writing assignments will be based on readings (first half of the course) and presentations (second half of the course), and will consist of a short (typically 1 or 2 paragraphs; a page or less) synopsis of each topic.

The list of topics (below) is not exhaustive, but it includes many of the most important historical and contemporary diseases, including some recently emerging infections.

Possible Topics (in no particular order):
Malaria
Cholera
Bubonic Plague
Typhus
Syphilis
Tuberculosis
Lyme Disease
Typhoid Fever
Influenza
HIV/AIDS
Smallpox
Yellow fever
Polio
Leprosy
SARS
Zika
Measles
Schistosomiasis (Flukes)
Dracunculiasis (Guinea Worm)

Presentations should include:
- A description of the infectious organism involved.
- The pathology of the infection (i.e., what does it do to the infected individual).
- Epidemiology and public health (how is the disease spread, what preventative measures can be taken, what treatments are available).
- Very importantly, the societal impact of the disease; past, present, and future.
- All sources should be cited.

In your presentation, try to avoid personifying microbes. Personification makes for good metaphor, but it is misleading in a factual sense. Microbes are not clever or devious. They have no plans or goals. They’re not scheming to outsmart us. If they thwart our efforts to fight them, it is not by some sinister design. They do what they’re genetically equipped to do in order to make a living, and those that can do so by getting around our defenses are the more successful ones.
**Reading**


Additional reading in the form of short articles might also be assigned.

There are certainly many more books we could have used. The full breadth of the course is not contained in any book with which I am acquainted, so I chose the best one I could find to cover infectious diseases in the context of history and society. Hopefully you will appreciate the down-to-earth style in which the book is written. It is quite unlike typical science textbooks that are so heavily laden with technical terminology. I know some of you might be science majors, but this book was written with the intelligent and informed non-scientist in mind. The author avoids excessive technical jargon and esoteric details that detract from the main message. Instead, she has distilled the information to a concise and conversational narrative, accessible to any educated reader.

**UWM Policies**

**Disabilities**
If you are a student with a disability, please do not hesitate to contact the instructor early in the semester for any help or accommodations which you may need. Students' rights are detailed in the schedule of classes.

http://www4.uwm.edu/sac/SACltr.pdf

**Weather**
Snow Days: Call 229-4444 to determine if classes or exams are cancelled due to an emergency.

**Academic misconduct**
In this course you are expected to perform to the best of your ability in an honest manner. Plagiarism or any other acts of misconduct will result in a penalty according UWS Chapter 14.
See http://www4.uwm.edu/acad_aff/policy/academicmisconduct.cfm

For other UWM policies, see http://www4.uwm.edu/secu/SyllabusLinks.pdf