SPRING 2021 BIOL 497 ISSUES IN BIOLOGICAL SCIENCES
Focus: Zoonoses & Emerging Infectious Diseases

Anti-racist, Inclusiveness, and Equity Statement

Welcome Video and a message from rapper Snoop Dogg

We acknowledge that our class is comprised of individuals with different races, cultures, ages, religions, sexual orientations, socioeconomic backgrounds, and many other social identities and life experiences. We will work together to create an inclusive and collaborative learning environment where every individual has the right to freely express their opinions and ideas. We will respectfully listen to and show thoughtful consideration of what others have to say. Our commitment to embracing diversity, inclusiveness, and equity in and outside the classroom will facilitate conversations around delicate subjects and lead to our professional, educational, and personal enrichment.

If you have a disability, please notify me at the start of the semester. You can request more information and appropriate accommodations via the office of Accessibility Services. Find other academic and non-academic support here.

Course vision statement

Zoonoses (diseases transmitted from animals to humans) accounts for ~60% of known infectious diseases and ~75% of emerging diseases. Most of the pathogens causing these diseases are potential agents for bioterrorism.

In this course, we will address the etiologies, epidemiology, and approaches for prevention, diagnostics, and treatments of major zoonotic diseases in humans and animals. We will also examine the evolutionary and ecological drivers of disease emergence and re-emergence, such as climate change. We will consider the consequences of the infectious diseases on biodiversity and socio-economic factors. Lastly, we will examine the existing prevention and control strategies to mitigate disease emergence.

The materials used in the course have been authored by scientists with diverse backgrounds and from various institutions around the world.

Course logistics

Faculty Instructor:
Email:
**Please write BIOL 497 in the subject line.*

Asynchronous Sessions: Tues 4:15 PM – 5:30 PM starting 1/26
Synchronous Sessions: Tues 1/19 and Thurs 4:15- 5:30 PM
**Link for synchronous sessions (live) is on course Blackboard*
Office hours:

Please do not hesitate to reach out. I am here to help.
Below are some comments from former Biology students
"I really appreciated how easy it was to get in contact with the instructor [...]. If you asked a question, she would not flat out give you the answer but instead, through expertly weaved questions, guide you to the answer."

"Dr. XXX was always available and open to any and all questions to help with this course. She provides a very inclusive learning environment and I always felt I could go to her if I needed help, even though I didn't reach out often."

"In many ways, human health is the great global connector." Kathleen Sebelius, former US Secretary of Human Health and Human Services

Student learning outcomes

Upon completion of this course, you should be able to:

1. explain the principles of zoonotic diseases;
2. compare and contrast the etiology, epidemiology, diagnostics and available treatments of major zoonotic diseases;
3. describe the anthropological and ecological drivers of infectious disease emergence and re-emergence;
4. recognize the impacts of zoonotic and emerging infectious diseases on global health and security, biodiversity, and economic prosperity;
5. recognize and explain successful public health measures of prevention and control;
6. critically read, analyze, synthesize, integrate, and effectively communicate factual, conceptual, and theoretical scientific concepts and applications both in written and oral formats;
7. reflect on the importance of diversity and inclusiveness in the fight against emerging and re-emerging infectious diseases.

"It is not who I am underneath, but what I do that defines me." Batman

Course grading system

The assignments and grading are designed such that each student's grade reflects their understanding of the material, their commitment to learning, and their engagement in the class. Language barriers will be taken into account when grading, if appropriate.

Weekly pre-discussion assignments: 10%
Graded in-class activities: 20%
Mini literature review: 40%
End-of-term group project: 30%

Extra credits: 2 pts/weekly biology seminar summaries or one-page summary of a speaker's research article

Letter Grade Equivalency:
100-93=A; 89-92=A-; 84-88=B+; 80-83=B; 76-79=B-; 73-75=C+; 70-72=C; 67-69=C-; 64-66=D+; 60-63=D; <60=F

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Course Requirements

Attendance: This course is a writing and discussion-based course, and as such, every student is required to read and study the materials posted before the discussion sessions. Students should attend all synchronous (live) sessions. They sessions will be recorded and made available to all. I will allow one missed session, if necessary. Please, inform me 24 hours before the scheduled class. Note that time has been allocated in the schedule to complete portion of major assignments.

Weekly pre-discussion assignments: Each student will answer a series of questions on the materials provided (lecture slides, assigned readings, or videos) prior to the live sessions. The assignments will be due on Blackboard at the start of the each live session.

Graded in-class activities: Synchronous sessions will encompass small group or individual activities that will be graded. They will center around the discussions, case studies, data analyses, video reflections, among other types of prompts. These activities will be completed in class.

Mini literature review: Each student will choose a topic related to zoonoses and emerging infectious diseases and will submit a 3-page mini review of the literature on the selected topic. The review will be based on 3 peer-reviewed journal articles (a review article and 2 primary research articles.) This assignment will be scaffolded throughout the term and feedback will be provided after the first draft. The first draft will account for 25% of the grade for this assignment.

End-of-term group project: Each group will create an informational content to raise awareness about a selected emerging zoonosis. The objective of this project is to foster science communication and science literacy in the community. Various platforms can be used from infographics, videos, website, blogs, etc. The project will be shared with the class and the public-at-large, if desired.

Accountability: Each student is responsible for reviewing the syllabus and the schedule to gain access to the assigned research articles and materials. Each student will need stable access to the internet to join live sessions on Zoom and access to Blackboard.

"Life need not be easy, provided only that it is not empty." Lise Meitner, physicist

Course policies

Drop Deadline: Feb 1
Last Day to Withdraw: Apr 16
Plagiarism: is frown upon in the United States.. Please, refrain from engaging in this practice. I will issue a warning in the first instance; however, I will file an Academic Dishonesty Incident Report, and you receive a failing grade for the course. Review the section on Academic Dishonesty in the University Catalog.
Late submissions: Accepted for 80% if turned within 48 hours after the deadline and 70% beyond that.

I understand that these times are difficult, and I will accommodate your academic needs as long as the requests are reasonable and not deceitful.

Click to Access Tentative Schedule and Assigned Readings