UNIVERSITY OF MINNESOTA
School of Public Health

The 2004 Public Health Institute

May 24 – June 11, 2004

COURSE SYLLABUS
PubH 7200-110
Application of Infectious Disease Epidemiology Principles: Understanding the Emergence of Zoonotic Diseases

Credits: 1.0

Course meeting times:	June 1-4, 2004
Instructor:	Jeffrey B. Bender
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I. Course Description

This course focuses on zoonotic diseases of public health importance. The course will review the genetic, biological, social, environmental, and ecological factors for the emergence or re-emergence of zoonotic diseases. Included in this discussion are principles that can be used to prevent and control transmission and ultimately protect human health.

II. Learning Objectives

Upon completion of this course, students will be able to:

Identify factors that create conditions for the emergence of specific zoonotic agents.

Describe the public health implications of certain zoonotic diseases.

Apply the understanding of outlined principles to develop strategies to control a specific zoonotic agent of public health importance such as rabies, plague, arthropod-borne diseases, or hydatid diseases.

III. Methods of Instruction and Work Expectations

Presentations and group exercises are used to present relevant material and help students develop a systematic approach to understand principles for preventing zoonotic diseases. Outside speakers will provide insights on the spectrum of diseases, reservoir-vector-human relationships, and current disease surveillance systems to help students integrate relevant concepts from the class into real world situations.

Course grading will be determined on the basis of class participation, a multiple-choice examination and a written assignment due within one week of the last day of class.

Class participation	50 points
Examination	100 points
Written and class presentation	100 points

IV. Grading

1. **Grading Criteria**: This course is offered A/F or S/N

- A/F letter grade will be determined by total effort as follows:

A = 95-100%	(4.0) Represents achievement that is outstanding relative to the level necessary to meet course requirements.
A- = 90-94%	
B+ = 87-89%	
B = 83-86%	(3.0) Represents achievement that is significantly above the level necessary to meet course requirements.
B- = 80-82%	
C+ = 77-79%	
C = 73-76%	(2.0) Represents achievement that meets the minimum course requirements.
C- = 70-72	
D+ =	
D =	(1.0) Achievement below minimum course expectations but sufficient to be awarded credit.
D- =	
F = below 60%	Represents failure (or no credit) and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an I.

- S/N option must complete all assignments to a C- level (70%):

S	Achievement that is satisfactory will be expected to complete all assignments and receive a minimum of 70% to receive a passing score (achievement required for an S is at the discretion of the instructor but may be no lower than a 70%).
F	Represents failure (or no credit) and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an I.

2. **Grading Option** – Students may change grading options during the initial registration period or during the first two days of the term. **The grading option may not be changed after the second day of class.**

3. **Course Incomplete** – An incomplete grade is permitted only in cases of extraordinary circumstances and following consultation with the instructor. In such cases and "I" grade will require a specific written agreement between the instructor and the student specifying the time and manner in which the student will complete the course requirements. Extension for completion of the work will not exceed one year.

4. **Scholastic Dishonesty** – This course follows the University of Minnesota Board of Regents' policy on student conduct and scholastic dishonesty which can be found at: http://www1.umn.edu/regents/policies/academic/StudentConductCode.pdf

   A grade of "F" or "N" for the entire course will be assigned for scholastic dishonesty as defined in the policy and will be reported to the Office of Student Judicial Affairs http://www.sja.umn.edu/

Plagiarism is an important element of this policy. It is defined as the presentation of another's writing or ideas as your own. Serious, intentional plagiarism will result in an "F" or "N" grade for this course. For more information on this policy and for a helpful discussion of preventing plagiarism, please consult University polices and procedures regarding academic integrity:
http://cisw.cla.umn.edu/plagiarism/uofmpolicies.html

Students are urged to be careful that they properly attribute and cite others' work in their own writing. For guidelines for correctly citing sources, go to http://tutorial.lib.umn.edu/. In addition, original work is expected in this course. It is unacceptable to hand in assignments for this course for which you received credit in another course unless by prior agreement with the instructor. Building on a dissertation or final project is acceptable.

If you have any questions, consult the instructor.

V. Course Withdrawal

School of Public Health Students may withdraw from a course **through the second** day of the course without permission. No "W" will appear on the transcript. After the second day, students are required to do the following:

- The student must contact and notify their advisor and course instructor informing them of the decision to withdraw from the course.
- The student must send an email to the SPH Student Services Center (SSC). The email must provide the student name, ID#, course number, section number, semester, and year with instructions to withdraw the student from the course, and acknowledgement that the instructor and advisor have been contacted.
- The advisor and instructor must email the SSC acknowledging the student is canceling the course. All parties must be notified of the student's intent.
- The SSC will complete the process by withdrawing the student from the course after receiving all emails (student, advisor and instructor). A "W" will be placed and remain on the student transcript for the course.
- After discussion with their advisor and notification to the instructor, students may withdraw until the end of the second day of class. There is no appeal process.

VI. Disabilities

Any student with a documented disability (e.g. physical, learning, psychiatric, vision, hearing, etc.) who needs to arrange reasonable accommodations must contact the instructor and Disability Services at the beginning of the term. All discussions remain confidential. For further information contact the University of Minnesota Disability Services website at http://ds.umn.edu/ or call 612-626-1333 (V/TTY).

VII. Course Text and Readings

Packet of readings to be available 1 week prior to the beginning of the course.
Readings will include:

Ashford DA, Gomez TM, Noah DL, Scott DP, Franz DR. Biologic terrorism and veterinary medicine in the United States. JAVMA 2000; 217: 664-667.

Brown and Bolin. Emerging disease of animals. Emerging Infectious Diseases of Animals: An overview. ASM Press. 2000 pp. 1-12.

Daszak P, Cunningham AA, Hyatt AD. Emerging infectious disease of wildlife—threat to biodiversity and human health. Science 2000; 287:443-49.

The emergence of zoonotic diseases. Understanding the impact on animal and human health. Workshop summary, Institute of Medicine. National Academy Press, 2001.

Epstein, P.R. Climate change and emerging infectious diseases. Microbes Infect, 2001; 3: 747-54.

Microbial threats to health. Emergence, detection and response. Institute of Medicine. National Academies Press, 2003.

Principles of virology, molecular biology, pathogenesis and control. Virus evolution and the emergence of new viruses. ASM Press. 2000 pp. 729-746.

Walker DH, Barbour AG, Oliver JH, et al. Emerging bacterial zoonotic and vector-borne disease. Ecological and epidemiological factors. JAMA 1996; 275: 463-469.

Yoshikawa TT. Perspective: aging and infectious diseases; Past, Present, and Future. J of Infect Dis 1997: 176: 1053-7.

VIII. Course Outline/Weekly Schedule

June 1 Tuesday, 4 hours	Overview of zoonotic diseases Emerging viruses and factors for emergence Weaponization of zoonotic diseases
June 2 Wednesday, 4 hours	Emerging diseases in animals an their impact on human health Animal husbandry practices and the emergence of zoonotic disease agents Vectors of disease transmission Antibiotic resistance and the food chain
June 3 Thursday, 3 hours	Role of weather and the emergence of infectious diseases Social and ecologic factors and disease emergence Zoonotic and vector-borne disease surveillance systems
June 4 Friday, 4 hours	Class presentations Examination

IX. Class Project