

College of Public Health and Health Professions

PHC 6519

Zoonotic Diseases in Humans and Animals

3 credits

Summer 2015

Online Course Website: lss.at.ufl.edu (UF eLearning)

Course Coordinator:

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Course Overview

The purpose of this online course is to introduce graduate and professional students to major zoonotic diseases. We will discuss both the human and animal presentations, epidemiology, means of prevention and control, available diagnostics, available treatments, and associated human and animal regulations for each disease. The diseases presented in class will be chosen based on their significance to public health practitioners.

The course is organized by etiologic agents of disease. There are 15 modules that must be completed by the deadlines provided on the schedule. Each module has an online timed quiz and an assignment.

There are no course prerequisites.

Course Objectives

Upon successful completion of the course, students should be able to:

1. Recognize and understand the zoonotic potential of presented diseases
2. Understand the epidemiology of zoonotic diseases that are of great public health concern
3. Describe the importance of zoonotic diseases in public health
4. Describe the route(s) of transmission of major zoonotic diseases
5. List significant public health successes regarding zoonotic diseases (and explain why they were successful)
6. Cite individual and population prevention and control methods for major zoonotic diseases
7. List populations that are particularly vulnerable to specific zoonotic diseases discussed in the course
8. Summarize the differences, in prevalence and risk, regarding zoonotic diseases in developed vs. developing countries (and the reasons for these differences)

Course Materials

Required Readings: Students will be provided with pertinent journal articles and reading materials as they apply to each module. Materials will be found on the course website.

Required Text: *Handbook of Zoonoses: Identification and Prevention* by J. L. Colville and D. L. Berryhill. 2007 ISBN: 978-0-323-04478-3, Approximate cost: \$45

Recommended text: *Human-Animal Medicine: Clinical Approaches to Zoonoses, Toxicants and Other Shared Health Risks* by Rabinowitz and Conti. 2009 ISBN: 978-1416068372

Course Evaluation and Grading

Quizzes – quizzes will be timed and may only be taken once. There are 15 quizzes and each is worth 15 points. Each quiz has 15 questions, multiple choice and true/false. You will have 15 minutes to take each quiz. Questions and answers will be available for student review after the deadline for completion/submission has passed.

Assignments – there are 15 assignments worth 15 points each. Please follow the instructions carefully and cite all sources.

The quizzes and assignments are equally weighted and each will comprise 3.33% of your final grade.

Assignment of letter grades for the course:

- A = 90-100%
- A- = 87-89%
- B+ = 83-86%
- B = 80-82%
- B- = 77-79%
- C+ = 73-76%
- C = 70-72%
- C- = 67-69%
- D+ = 63-66%
- D = 60-62%
- D- = 57-59%
- E = < 57%

The grade point values assigned to each grade are:

Grade values for conversion												
Letter grades	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E,I
Grade points	4.0	3.67	3.33	3.0	2.67	2.33	2.0	1.67	1.33	1.0	0.67	0.0

Module Outline

- Module 1 Principles of Zoonoses
- Module 2 Viral Diseases: Rabies, AIDS
- Module 3 Viral Diseases: Eastern Equine Encephalitis, Western Equine Encephalitis, St. Louis Encephalitis, La Crosse Encephalitis, West Nile Virus

- Module 4 Viral Diseases: Influenza, Hantavirus, Lymphocytic Choriomeningitis, Monkeypox
- Module 5 Bacterial Diseases: Rat-bite fever, Staphylococcosis, Vibriosis, Yersiniosis
- Module 6 Bacterial Diseases: Anthrax, Cat Scratch Disease, Leptospirosis
- Module 7 Bacterial Diseases: Tuberculosis, Brucellosis
- Module 8 Bacterial Diseases: Pasteurellosis, Psittacosis, Listeriosis, Q Fever
- Module 9 Bacterial Diseases: Campylobacteriosis, Colibacillosis, Salmonellosis, Botulism
- Module 10 Vector Borne Bacterial Diseases: Lyme Disease, Rocky Mountain Spotted Fever, Ehrlichiosis
- Module 11 Vector Borne Bacterial Diseases: Leishmaniasis, Plague, Tularemia
- Module 12 Parasitic Diseases: Round Worm Infections, Tapeworm Infections, Trichinosis
- Module 13 Parasitic Disease: Protozoans: Babesiosis, Cryptosporidiosis, Giardiasis, Toxoplasmosis
- Module 14 Parasitic Diseases: Arthropod Infestations; and Fungal Diseases: Dermatormycosis
- Module 15 TSEs: BSE, Chronic Wasting Disease, Scrapie

Statement of University’s Honesty Policy

Academic Integrity – Students are expected to act in accordance with the University of Florida policy on academic integrity (see Graduate Student Handbook for details). Cheating or plagiarism in any form is unacceptable and inexcusable behavior.

We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.

Statement Related to Accommodations for Students with Disabilities

Students requesting classroom accommodation must first register with the Dean of Students Office, which will provide documentation to the student. The student should then provide this documentation to the instructor.

Make-up Work

Personal issues with regard to fulfillment of course requirements will be handled on an individual basis. Late submissions will not be accepted without instructor approval prior to the submission deadline.

Counseling and Student Health

Students may occasionally have personal issues that arise in the course of pursuing higher education or that may interfere with their academic performance. If you find yourself facing problems affecting your coursework, you are encouraged to talk with an instructor and to seek confidential assistance at the University of Florida Counseling Center, 352-392-1575, or Student Mental Health Services, 352-392-1171. Visit their web sites for more information:

<http://www.counsel.ufl.edu/> or <http://www.health.ufl.edu/shcc/smhs/index.htm#urgent>

The Student Health Care Center at Shands is a satellite clinic of the main Student Health Care Center located on Fletcher Drive on campus. Student Health at Shands offers a variety of clinical services, including primary care, women's health care, immunizations, mental health care, and pharmacy services. The clinic is located on the second floor of the Dental Tower in the Health

Science Center. For more information, contact the clinic at 392-0627 or check out the web site at: www.health.ufl.edu/shcc

Crisis intervention is always available 24/7 from:
Alachua County Crisis Center: (352) 264-6789.

BUT – Do not wait until you reach a crisis to come in and talk with us. We have helped many students through stressful situations impacting their academic performance. You are not alone so do not be afraid to ask for assistance.

Course Schedule

Module	Topics	Text Book Pages	Additional Reading & Presentations	Quiz and Assignment Due Date*
1	<i>Principles of Zoonoses</i>	2-13	<ol style="list-style-type: none"> 1. Powerpoint Presentation – Intro to Zoonotic Dzs; 2. Childs Article: <i>EID Vol 4 No 3 July-Sept 1998</i> “Emerging Zoonoses” www.cdc.gov/ncidod/EID/vol4no3/chlds.htm 3. Online Video Clip: National Geographic “Deadly Contact: How Animals and Humans Exchange Disease” http://ngm.nationalgeographic.com/2007/10/infectious-animals/multimedia-interactive 	11:55PM Wednesday, August 5, 2015
<i>Viral Diseases</i>				
2	<i>Rabies, AIDS</i>	142-147	<ol style="list-style-type: none"> 1. Powerpoint - Rabies 2. Article: <i>Science</i>. 2000 Jan 28;287(5453):607-14 “AIDS as a zoonosis: scientific and public health implications” 	11:55PM Wednesday, August 5, 2015
3	<i>Encephalitides: Eastern Equine Encephalitis, Western Equine Encephalitis, St. Louis Encephalitis, La Crosse Encephalitis, West Nile Virus</i>	73-76; 219-222; 163-166; 100-102; 215-218	<ol style="list-style-type: none"> 1. Article: <i>Clin Med Res</i>, 2003 Jan; 1:1; 5-12 “Birds, Migration, and Emerging Zoonoses: West Nile Virus, Lyme Disease, Influenza A, and Enteropathogens” 	11:55PM Wednesday, April 22, 2015
4	<i>Influenza, Hantavirus, Lymphocytic Choriomeningitis, Monkeypox</i>	96-99; 87-90; 120-122	<ol style="list-style-type: none"> 1. Article: <i>Lancet Infect Dis</i>. 2004 Jan;4(1):15-25 “Human monkeypox: an emerging zoonosis.” 	11:55PM Wednesday, August 5, 2015
<i>Bacterial Diseases</i>				
5	<i>Rat-bite fever, Staphylococcosis, Vibriosis, Yersiniosis</i>	148-149; 179-181;		11:55PM Wednesday, August 5, 2015

		211-214; 223-226		
6	<i>Anthrax, Cat Scratch Disease, Leptospirosis</i>	16-21; 49-53; 103-107		11:55PM Wednesday, August 5, 2015
7	<i>Tuberculosis, Brucellosis</i>	123-126; 38-43	1. Powerpoint – Tuberculosis and Brucellosis 2. Rodwell article: EID Vol 14, No 6 June 2008 “Tuberculosis from <i>M. bovis</i> in Binational Communities, United States” www.cdc.gov/EID/content/14/6/909.htm	11:55PM Wednesday, August 5, 2015
8	<i>Pasteurellosis, Psittacosis, Listeriosis, Q Fever</i>	127-129; 135-138; 108-113 139-141		11:55PM Wednesday, August 5, 2015
9	<i>Campylobacteriosis, Colibacillosis, Salmonellosis, Botulism</i>	44-48; 54-58; 167-172; 28-34; 231		11:55PM Wednesday, August 5, 2015
10	<i>Vector Borne: Lyme Disease, Rocky Mountain Spotted Fever, Ehrlichiosis</i>	114-119; 150-154; 77-82; 227-230		11:55PM Wednesday, August 5, 2015
11	<i>Vector Borne: Leishmaniasis, Plague, Tularemia</i>	130-134; 205-210	1. Powerpoint – Leishmaniasis 2. Desjeux Article: Roy Soc Trop Med & Hygiene, 2001 “The Increase in Risk Factors for Leishmaniasis Worldwide” www.who.int/leishmaniasis/burden/en/	11:55PM Wednesday, August 5, 2015
Internal Parasitic Diseases				
12	<i>Roundworm Infections, Tapeworm Infections, Trichinosis</i>	91-95; 155-162; 182-	1. Article: CDC Guidelines for Veterinarians: Prevention of Zoonotic Transmission of Ascarids and Hookworms of Dogs and Cats www.cdc.gov/ncidod/dpd/parasites/ascaris/prevention.htm	11:55PM Wednesday, August 5, 2015

		192; 200- 204		
13	<i>Protozoans: Babesiosis, Cryptosporidiosis, Giardiasis, Toxoplasmosis</i>	22- 27; 59- 63; 83- 86; 193- 199		11:55PM Wednesday, August 5, 2015
<i>External Parasites, Fungal, and Prion Diseases</i>				
14	<i>Arthropod Infestations (Scabies), Dermatomycosis</i>	173- 178; 64-72		11:55PM Wednesday, August 5, 2015
15	<i>Bovine Spongiform Encephalopathy, Chronic Wasting Disease, Scrapie</i>	35-37	1. Powerpoint – TSEs 2. Belay Article: EID Vol 10, No 6, June 2004 “Chronic Wasting Disease and potential transmission to humans” www.cdc.gov/ncidod/EID/vol10no6/03-1082.htm	11:55PM Wednesday, August 5, 2015

* 5 points extra credit will be given if all 15 assignments are turned in at least two weeks prior to the final due date. This extra credit option applies for assignments only, not quizzes (ie. quizzes can be completed early also, however no extra credit will be offered for early completion of quizzes).

Early turn in deadline for receiving extra credit: 11:55PM, Wednesday, July 22, 2015

Discussion boards will be available for discussion of topics pertinent to the course. Postings are voluntary.

For those of you interested in emerging infectious diseases, the following books may be of interest. (They are not required readings for this course).

“The Coming Plague: Newly Emerging Diseases in a World Out of Balance” by Laurie Garrett

“The Demon in the Freezer” by Richard Preston

“The Hot Zone” by Richard Preston

“Virus Hunter: Thirty Years of Battling Hot Viruses Around the World” by C. J. Peters

“Ebola” by William Close

“Deadly Feasts: Tracking the Secrets of a Terrifying New Plague” by Richard Rhodes

“Mountains Beyond Mountains” by Tracy Kidder