

University of Florida
College of Public Health & Health Professions Syllabus
PHC 6002: Epidemiology of Infectious Disease
Summer: 2015

Delivery Format: Classroom
Course: <http://lss.at.ufl.edu>

Instructor Name: Jerne Shapiro, MPH
Email Address: shapiroj@ufl.edu
Office Hours: By appointment

Preferred Course Communications: You have email on the course site under the "Inbox" tool. This is the preferred method of communication, and this is how I will contact you if necessary. You can adjust the settings to have all course mail forwarded to your regular email account so that you don't miss anything or forget to check. If you have questions please contact me using this email option. If you are having problems and cannot use the course Inbox option, you may email me directly.

Prerequisites:

PHC 6001 Principles of Epidemiology and PHC 6050 Statistical Methods for Health Science 1 (or its equivalent)

PURPOSE AND OUTCOME

Course Overview

This is an intermediate level course, which will introduce the student to the unique aspects of infectious disease and epidemiological methods used in their study, prevention and control. The student will gain knowledge through lectures, case studies, simulated outbreaks, readings, exercises, and an individual project.

Relation to Program Outcomes

This course reinforces the following competencies:

1. Identify and understand the historical context of epidemiology, epidemiologic terminology, study designs and methodology
2. Identify key sources of epidemiologic data and data collection methodology.
3. Demonstrate ability to analyze and interpret epidemiologic data
4. Explain and communicate current epidemiologic and public health problems for informing scientific, ethical, economic and political discussions of health problems

Course Objectives and/or Goals

1. Understand the historical impact of infectious disease on society.
2. Understand the modes of transmission and pathogenesis of infectious disease and the host, organism and environment relationship as they apply to infectious disease epidemiology.
3. Understand the usual approaches to an outbreak investigation.
4. Understand strategies for diagnosis, prevention and control of infectious agents.
5. Understand the application of epidemiological methods to the study of infectious disease and their importance in prevention of morbidity.
6. Become familiar with selected infectious diseases, with knowledge of the nature, agent and route of contagion of each disease.

Instructional Methods

- 1) Lectures: are for general orientation. Students are responsible for all the material presented in the course and assigned readings.
- 2) Readings and Resources. In addition to the required text, supplementary readings and resources will be posted in the course. The reading list may be supplemented during the course.
- 3) Assessments: A variety of assessments will be used in this course, including but not limited to discussions, assignments and exams.

What is expected of you?

You are expected to actively engage in the course throughout the semester. Your participation fosters a rich course experience for you and your peers that facilitates overall mastery of the course objectives.

Course Materials and Technology

1. **Lectures** – provide a general overview of each topic.

2. **Required Text, readings, and materials**

- A. Heymann, David, MD. *Control of Communicable Diseases Manual*, 19th Edition. Washington DC: American Public Health Association, 2008. It is also available with a mobile and web application. Refer to <http://www.apha.org/publications/bookstore/ccdmmobile.htm> for more information about on the web application.
- B. Supplemental readings will also be assigned for lectures and are posted by topic under the course schedule.

3. **Additional resources** (You should sign up for the following by (Thursday May 14th)

- A. Infectious Disease list serve. Pro-med: www.promedmail.com Click on the subscribe link. (HINT: sign up only for the “Pro Med Digest A consolation of Posts” only)
- B. Morbidity and Morality Weekly Report: <http://www.cdc.gov/mmwr/mmwrsubscribe.html>
- C. (Optional) Emerging Infectious Diseases. To subscribe to the Emerging Infectious Diseases e-mail list, go to <http://wwwnc.cdc.gov/eid/> click on the subscribe button. Choose the electronic version of the publication. You will also be asked if you would like to receive other information from the CDC, choose what feels appropriate to your interests.
- D. (Optional) Desowitz, Robert. *New Guinea Tapeworms and Jewish Grandmothers: Tales of Parasites and People*. New York: W.W. Norton & Co., 1987.
- E. (Optional) *Contagion*. Directed by Steven Soderberg. Warner Brothers, 2011.

4. **Examinations:** Students are expected to take the examinations on the scheduled date and time. There is a midterm (25%) and a final (25%).

5. **Class Briefing:** Five percent of your class grade will come from briefing (three minutes) the class of a timely topic in the dreaded world of infectious diseases. Items may be obtained from any of the “additional resources” listed in the syllabus or any other reputable source you choose. Include a brief description of the disease and mode of transmission (obtain your information from your *Control of Communicable Disease Manual*).

6. **Class exercises:** There will be a total of two class exercises due.

Each exercise is worth 5% of your course grade (total 10%). See more information, and due dates via the Assignment tool in the left hand menu of the course site.

7. Final Project- Please read the detailed description for the project posted on the course website in the Assignments tool on the left hand menu. This is an individual assignment, but each person will need to pick a partner to review/proofread your project. The paper portion of the project is due prior to the presentation date. Only submit your final paper to be graded.

For technical support for this class, please contact the UF Help Desk at:

- Learning-support@ufl.edu
- (352) 392-HELP - select option 2
- <https://lss.at.ufl.edu/help.shtml>

ACADEMIC REQUIREMENTS AND GRADING

Grading

Requirement	Due date	Points or % of final grade (% must sum to 100%)
Class Briefing	June 9 th	5%
Class Participation		10%
Midterm Exam	May 28	25%
Exercises	May 21 and June 8	10%
Final Project	Paper: June 4, Presentations: (6/11, 6/15, 6/16)	25%
Final Exam	June 18	25%

Point system used (i.e., how do course points translate into letter grades).

Points earned	93 - 100	90 - 92	87 - 89	83 - 86	80 - 82	77 - 79	73 - 76	70 - 72	67 - 69	63 - 66	60 - 62	Below 60
Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E

Please be aware that a C- is not an acceptable grade for graduate students. In addition, a grade of C counts toward a graduate degree only if an equal number of credits in courses numbered 5000 or higher have been earned with an A.

Letter Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	D-	E	WF	I	NG	S-U
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	0.0	0.0	0.0	0.0

For greater detail on the meaning of letter grades and university policies related to them, see the Registrar's Grade Policy regulations at:

<http://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

Policy Related to Make up Exams or Other Work:

Requirements: Students are responsible for all course material, including reading all required materials prior to each lecture. Students should also read your e-mail and announcements in the course several times a week. Please note that announcements and emails sent out from the course site will go to your UFL email

address (versus your Google, Yahoo, etc.), please check this mail at <http://webmail.ufl.edu> regularly also. Students should also reference the calendar in the course to keep up with weekly deadlines.

Make Ups: If you are unable to meet a deadline in this course for a reason approved above and have given prior notification to the instructor when possible, you will be given adequate time to make up any coursework missed. All other missed or late work will receive a grade of zero. Make-up exams will be provided only in cases of excused absences or conflict during final exams per University policy and MUST be discussed with the instructor in advance. Make-up exams will differ from the regularly scheduled exam.

Readings and Discussions: Students should read the assigned readings prior course lectures and be prepared to discuss the material.

Please note: Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail me within 24 hours of the technical difficulty if you wish to request a make-up.

Policy Related to Required Class Attendance

Attendance Policy: Per the University of Florida, students are responsible for satisfying all academic objectives as defined by the instructor. Acceptable reasons for absence include illness, serious family emergencies, special curricular requirements (e.g., judging trips, field trips, professional conferences), military obligation, severe weather conditions, religious holidays and participation in official University activities such as music performances, athletic competition or debate. Absences from class for court-imposed legal obligations (e.g., jury duty or subpoena) must be excused. Remember that, when possible (i.e. extracurricular activities, official University activities, and religious holidays), **prior notification** of absence is required if the student plans to be given an extension on assignments. Even though this is an online course, students are expected to log on regularly and participate in the course.

All faculty are bound by the UF policy for excused absences. For information regarding the UF Attendance Policy see the Registrar website for additional details:

<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

Expectations Regarding Course Behavior

Communication Guidelines

Preferred Course Communications: If you have questions please contact me using the shapiroj@ufl.edu email option.

Academic Integrity

Students are expected to act in accordance with the University of Florida policy on academic integrity. As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge:

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

You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied:

“On my honor, I have neither given nor received unauthorized aid in doing this assignment.”

It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For additional information regarding Academic Integrity, please see Student Conduct and Honor Code or the Graduate Student Website for additional details:

<https://www.dso.ufl.edu/sccr/process/student-conduct-honor-code/>
<http://gradschool.ufl.edu/students/introduction.html>

Please remember cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior.

Online Faculty Course Evaluation Process

Students are expected to provide feedback on the quality of instruction in this course by completing online evaluations at <https://evaluations.ufl.edu>. Evaluations are typically open during the last two or three weeks of the semester, but students will be given specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results/>.

SUPPORT SERVICES

Accommodations for Students with Disabilities

If you require classroom accommodation because of a disability, you must register with the Dean of Students Office <http://www.dso.ufl.edu> within the first week of class. The Dean of Students Office will provide documentation of accommodations to you, which you then give to me as the instructor of the course to receive accommodations. Please make sure you provide this letter to me by the end of the second week of the course. The College is committed to providing reasonable accommodations to assist students in their coursework.

Counseling and Student Health

Students sometimes experience stress from academic expectations and/or personal and interpersonal issues that may interfere with their academic performance. If you find yourself facing issues that have the potential to or are already negatively affecting your coursework, you are encouraged to talk with an instructor and/or seek help through University resources available to you.

- The Counseling and Wellness Center 352-392-1575 offers a variety of support services such as psychological assessment and intervention and assistance for math and test anxiety. Visit their web site for more information: <http://www.counseling.ufl.edu>. On line and in person assistance is available.
- You Matter We Care website: <http://www.umatter.ufl.edu/>. If you are feeling overwhelmed or stressed, you can reach out for help through the You Matter We Care website, which is staffed by Dean of Students and Counseling Center personnel.
- 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. 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: <https://shcc.ufl.edu/>
- Crisis intervention is always available 24/7 from:
 Alachua County Crisis Center
 (352) 264-6789
<http://www.alachuacounty.us/DEPTS/CSS/CRISISCENTER/Pages/CrisisCenter.aspx>

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.

Infectious Disease Epidemiology Course Schedule

Lecture Topic and Reading Materials

May 11

Lectures

History of Infectious Diseases

Outbreak Investigations

Readings:

- CDC: Steps in an Outbreak Investigation- Lesson 6 Section 2
<http://www.cdc.gov/ophss/csels/dsepd/ss1978/lesson6/Section2.html>
- Specimen Collection- from UNC.
- WHO Death Data (page 1-5): Review the info but please don't memorize
<http://www.who.int/mediacentre/factsheets/fs310/en/index.html>
- Control of Communicable Disease Manual (CCDM):

Smallpox

Plague

Syphilis

May 12

Lectures

Immunology

Vaccine Preventable Diseases

Readings:

- The Pink Book: Immunization Strategies for Healthcare Practices and Providers- Epidemiology and Prevention of Vaccine-Preventable Diseases.
<http://www.cdc.gov/vaccines/pubs/pinkbook/strat.html>
- Laboratory Diagnosis and Immunology: An Overview
- CCDM:

Measles

Pertussis

Polio

May 14

Exercise

Bring a calculator and CCDM to class.

May 18

Lectures

Zoonotic Diseases

Vector Borne and Parasitic Diseases

Reading:

- MMWR: Locally Acquired Dengue — Key West, Florida, 2009–2010:
<http://www.cdc.gov/mmwr/pdf/wk/mm5919.pdf>
- The Socio-Ecology of Zoonotic Infections <http://onlinelibrary.wiley.com/doi/10.1111/j.1469-0691.2010.03451.x/full>
- CCDM
 - Dracunculiasis
 - Lyme Disease
 - Malaria
 - Rabies

May 19 (no class)

Lectures

Molecular Epidemiology with Robyn Kay, MPH

Readings

- Molecular Subtyping and the Transformation of Public Health (located in Resources)
- Discernment between deliberate and natural infectious disease outbreaks (located in Resources)

May 21

Exercise #1 due

Lecture

Diarrheal Diseases

Readings:

- Explore the CDC website on Travelers' Health (this is a great website to use for overseas travel information). Pick a place you would like to visit and explore the health information listed.
<http://wwwn.cdc.gov/travel/default.aspx>
- Ranking the Risks: The 10 Pathogen Food Combinations with the Greatest Burden on Public Health. (only read the Executive Summary page 7-15)
<http://www.rwjf.org/content/dam/farm/reports/reports/2011/rwjf70101>
- CCDM:
 - Vibrio cholera*
 - Salmonella
 - E. Coli*
 - Rotavirus
 - Giardia lamblia*

May 25

Memorial Day- No Class

May 26**Lecture**

Tuberculosis with Michael Lazuardo, MD, MPH

Readings:

- National Institute of Health: Detailed Explanation of TB
<http://www.niaid.nih.gov/topics/tuberculosis/Understanding/WhatIsTB/Pages/detailed.aspx>
- MMWR: Trends in Tuberculosis --- United States, 2013
<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6311a2.htm>
- Multidrug-resistant tuberculosis (MDR-TB) October 2013 Update- WHO
http://www.who.int/tb/challenges/mdr/mdr_tb_factsheet.pdf?ua=1
- CCDM:
 - Tuberculosis

May 28**Midterm**

Bring a calculator and pencil to class

June 1**Lecture**

Emerging and Re-emerging Infectious Diseases with Glenn Morris, MD, MPH, TM

Reading

- Population biology of emerging and re-emerging pathogens. Trends in Microbiology Vol. 10 No. 10 (Suppl.), 2002 http://courses.washington.edu/envh311/Readings/Optional_08.pdf

June 2**In Class Exercise****Lecture**

Influenza

Readings:

- Manual for Surveillance of Vaccine Preventable Disease: <http://www.cdc.gov/vaccines/pubs/surv-manual/chpt06-influenza.html>
- Pandemic Influenza Storybook. Take a minute and read a few of the stories submitted.
<http://www.pandemicflu.gov/storybook/stories/index.html>
- CCDM:
 - Influenza

June 4

Final paper due

Lecture

Hospital Infection Prevention and Control with Laura Netardus, RN and Miranda Williams, MPH, RN

Readings

None

June 8

Exercise #2 due

Lecture

Surveillance with David Atrubin, MPH

Readings

- Principles of Epidemiology in Public Health Practice. Read Lesson 5: Surveillance only.

June 9

Lectures

STI

HIV/AIDS

Readings

- How it Began by Frontline: <http://www.pbs.org/wgbh/pages/frontline/aids/virus/origins.html>. If you have the time and are interested, the video series on HIV by Frontline is very interesting. Located to the left on side of the webpage.
- Human Papillomavirus Vaccination Coverage Among Adolescent Girls, 2007–2012, and Postlicensure Vaccine Safety Monitoring, 2006–2013 — United States, MMWR. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6229a4.htm>
- Oncology Dietitian Exposes Fraud in CDC's HPV Vaccine Effectiveness Study. This internet link shows an opposing view on the HPV vaccine. I am including this article so you can have an understanding of what parents can find on the first page of a Google search for "HPV effectiveness". <http://articles.mercola.com/sites/articles/archive/2013/07/16/hpv-vaccine-effectiveness.aspx>

June 11

Student Presentations

June 15

Student Presentations

June 16

Student Presentations

June 18

Final Exam