

University of Florida
College of Public Health & Health Professions Syllabus
PHC6517: Public Health Concepts in Infectious Diseases (3 credit hours)
Fall 2018
Delivery Format: On-Campus

Instructor Name: Diana P. Rojas Alvarez MD, PhD
Room Number: HPNP G-111 (Mondays 10:40 -11:30 am and Wednesdays 9:35 – 11:30 am)
Phone Number: 352-2941940
Email Address: dprojas@ufl.edu
Office Hours: Mondays 1:00 -3:00 pm CTRB office 5223 or before/after class (usually good if discussed in advance).
Preferred Course Communications by email or Canvas.

Prerequisites

PHC 6001 and PHC 6002, or permission from the instructor.

PURPOSE AND OUTCOME

Course Overview

This course is intended to ensure that students: a) understand the various epidemiological research methods used to obtain evidence regarding infectious disease transmission dynamics and health outcomes; b) can interpret the existing evidence needed to make public health or policy recommendations; and c) are able to propose research strategies to obtain evidence needed to improve public health outcomes related to infectious diseases. Topic areas will include key infectious disease conditions that are relevant in the early 21st century, with additional focus on specific infections that are problematic during the year the course is offered (for example, 2017 emphasized Zika virus). These include malaria, HIV infection, vector-borne infections, influenza, sexually transmitted diseases, emerging infectious diseases, health-care associated infections, and other conditions chosen by the students. Students will use the knowledge and skills gained in the course to design an original research study that addresses an important question related to infectious diseases.

Course Objectives and/or Goals

- 1) Identify and describe current public health issues related to the most important infectious diseases challenging our world today.
 - a. Use a range of resources to obtain information regarding basic epidemiology of infectious diseases.
 - b. State relevant facts related to several of the most pressing infectious disease topics today.
 - c. Interpret data from tables, graphs, and research papers that describe infectious disease epidemiology.
 - d. Describe factors that influence variation in health outcomes of specific infectious diseases across diverse populations.

- 2) Describe strategies to reduce the transmission of infectious diseases.
 - a. Identify specific factors that are associated with transmission of infectious diseases transmission, including characteristics of the pathogen, the human host, other animals and vectors, and the environment.

- b. State the reproductive rate equation in infectious disease epidemiology, and for a specific infection, describe how each aspect of the equation can be influenced by public health intervention strategies.
 - c. Explain specific prevention strategies to prevent infectious disease transmission, including vaccines, and identify facilitators and barriers to these strategies.
- 3) Interpret strengths and weaknesses of specific epidemiologic research studies as they apply to infectious disease epidemiology.
- a. Discuss the strengths and limitations of specific research study designs used to obtain evidence in infectious disease epidemiology.
 - b. Describe strengths and limitations in our ability to measure the impact of infectious diseases in human populations, including measurement of infection (e.g. diagnosis) and health outcomes and behaviors.
 - c. Explain how various research tools, such as genetic sequencing of pathogens, and mathematical models, can be used to inform knowledge about infectious disease transmission and prevention.
- 4) Design and critique research studies to answer a research question related to infectious disease epidemiology.
- a. Construct research questions that include predictors, outcomes, and an identified population from existing literature, your own research study, and scenarios of various public health situations.
 - b. Design an original research study and present it in both a written document and oral presentation.

Blended Learning

What is blended learning and why is it important?

A Blended Learning class uses a mixture of technology and face-to-face instruction to help you maximize your learning. Knowledge content that, as the instructor, I would have traditionally presented during a live class lecture is instead provided online before the live class takes place. This lets me focus my face-to-face teaching on course activities designed to help you strengthen higher order thinking skills such as critical thinking, problem solving, and collaboration. Competency in these skills is critical for today's health professional.

What is expected of you?

You are expected to actively engage in the course throughout the semester. You must come to class prepared by completing all out-of-class assignments. This preparation gives you the knowledge or practice needed to engage in higher levels of learning during the live class sessions. If you are not prepared for the face-to-face sessions, you may struggle to keep pace with the activities occurring in the live sessions, and it is unlikely that you will reach the higher learning goals of the course. Similarly, you are expected to actively participate in the live class. Your participation fosters a rich course experience for you and your peers that facilitates overall mastery of the course objectives.

DESCRIPTION OF COURSE CONTENT

Topical Outline/Course Schedule

Fall 2018: Mondays 10:40 am – 11:30 am, Wednesdays 9:35 am-11:30 am.			
Class	Dates	Topic	Guest lecturer
1	Wed 08/22	1st Day of Class: General principles and course overview	
2	Mon 08/27	Homework discussion Study designs applied to infectious diseases research- vaccine evaluation study designs.	
3	Wed 08/29	Article discussion vaccine evaluation study designs Basic concepts on transmission dynamics of infectious diseases	
4	Mon 09/03	Labor day holiday- No class	
5	Wed 09/05	Basic concepts Ebola transmission Design and analysis of the ring vaccination trial for Ebola in West Africa.	Dr. Ira Longini
6	Mon 09/10	Workshop transmission dynamics; Book club selection	
7	Wed 09/12	Using genomic data to understand Tuberculosis transmission Article discussion methods applied to Tuberculosis research	Dr. Nancy Seraphin
8	Mon 09/17	Transmission dynamics of influenza	Dr. Derek Cummings
9	Wed 09/19	Article discussion transmission dynamics Flu.	
10	Mon 09/24	Methods applied to understand the transmission of HIV/STIs	Dr. Robert Cook
11	Wed 09/26	Article discussion HIV/STIs	
12	Mon 10/01	Midterm exam	

13	Wed 10/03	Study designs to evaluate interventions for Emerging Pathogens	Dr. Natalie Dean
14	Mon 10/08	Article discussion emerging pathogens	
15	Wed 10/10	Projected impact of interventions for dengue prevention - Vector borne diseases Article discussion VBD	Dr. Tom Hladish
16	Mon 10/15	Methods to evaluate healthcare related infections	Dr. Cindy Prins
17	Wed 10/17	Article discussion Healthcare related infections	
18	Mon 10/22	Neglected Tropical Diseases.	Dr. Song Liang
19	Wed 10/24	Cholera and diarrheal diseases	Dr. Glenn Morris
20	Mon 10/29	Geographic Information Systems applied to infectious diseases	Dr. Gregory Glass
21	Wed 10/31	Article discussion GIS Phylogenetic and infectious diseases	Dr. Marco Salemi
22	Mon 11/05	Transmission of Malaria	Dr. Maha El -Badri
23	Wed 11/07	Paper discussion about Malaria	
24	Mon 11/12	Holiday	
25	Wed 11/14	Topic pick by students	
26	Mon 11/19	Article discussion	
27	Wed 11/21	No Class-Thanksgiving break	
28	Mon 11/26	Methods to measure the global burden of foodborne illness	Dr. Arie Havelaar
29	Wed 11/28	Final project presentation	Students
30	Mon 12/03	Final project presentation	Students
31	Wed 12/05	Final project presentation	Students
32	Thur-Friday	Final exam	

Course Materials and Technology

Textbook (Recommended): Infectious Disease Epidemiology Theory and Practice, 3rd edition (2014). By Kenrad E. Nelson and Carolyn F. Masters Williams.

1-3 journal articles each week. These will be available online on the course CANVAS e-learning system, which can be accessed at URL: lss.at.ufl.edu and requires your Gatorlink ID.

Information available via the Internet, especially from agencies such as CDC and WHO

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

Time commitment. Each week, there is a 1-hour class on Monday and a 2-hour class on Wednesday. In general, approximately 1/3 of class time will be devoted to review of a specific infectious disease concept or condition, 1/3 will be a group discussion of research articles or existing data, and 1/3 will include presentations from guest lecturers who will discuss their research activity for specific infectious disease topics. For this 3-credit graduate course, students are expected to spend approximately 6-9 hours each week outside of class reviewing core information about the infectious disease topic of the week, doing homework assignments, and working towards their final class project.

The class schedule of topics and guest lectures is available is included as a separate document that will be updated periodically during the semester. The most recent version will be posted on the Canvas web site.

Homework. 15% of grade. There will be homework due before class approximately once a week. Homework will usually involve a search for information needed to answer specific questions related to infectious disease epidemiology, or to read and comment on specific research journal articles that are assigned during the semester. In this course, the homework assignments are often assigned approximately one week before the due date to allow flexibility regarding the specific topics and journal articles we choose. The responses to all questions should never be more than one page in length, and should be submitted in Canvas prior to class. I will drop your lowest homework grade. Late homeworks may be accepted, with at least 1 point deduction per day (of 10), if arrangements are discussed prior to class (e.g. in case of illness).

Article review: 10% of grade. Each student will present 1-2 journal articles during the semester and participate in class discussions. For article review, students will be assigned one or two specific infectious disease topics to present on. At least two weeks prior to the presentation date, the student will do a literature search for articles related to the topic and choose 1-3 articles they would like to discuss. The articles should be research articles that present original research data (not be a review paper). Students must submit their article selections to Dr. Rojas for approval at least 10 days prior to their scheduled presentation, so that the assigned article can be posted to the class 7 days prior to the day of discussion. On the day of each paper discussion, the student will lead a 15-20 minute class discussion in which classmates should be encouraged to participate. The presenting student should be sure to address:

1. What is the specific research question, and why is it significant?
2. What was known and unknown before the study started?
3. What is the study design, and why was that study design used?

4. Who was the population and how was a sample of the population identified?
5. What was the major outcome and how was it measured?

Group assignments: 10% of grade. At least 2 times during the semester, students will select a question related to a current infectious disease topic such as Zika or Ebola virus. Students will prepare an answer to the question for a 5-minute presentation in which they attempt to find specific evidence to support an answer to the question:

1. Identify at least one source of original data or declare that there are no data
2. Create a 1-page (max) handout to bring for class that outlines the answer to the question, presents some data (if available), and explain a rationale for their response.
3. List at least 2 references used to address the question.

Class participation: 5% of grade. The class has a lot of discussion, and students are expected to participate by being present in class and by speaking and discussing the topics of the day. When guest lecturers attend, students are strongly encouraged to participate in the discussions. Grades for class participation are generally provides as excellent (95), good (90), or could have been better (85). Missing more than 2 classes for any reason will result in 5 points off the participation grade, unless specifically negotiated with the instructor. I will provide feedback on participation rates at the time of Exam 1.

Final research paper and presentation. 15% each of grade. Each student will identify an infectious disease research topic of their own choosing, and prepare a 20-minute oral presentation and a 10-15 page (double spaced) paper outlining the rationale and the study design for a research study, that the student designs, and that is designed to answer a specific research question. The paper will have several deadlines for completion of benchmarks during the semester, and peer review of other students' papers. Accomplishing these benchmarks will be part of the grade.

The paper will be graded and returned to the student at least one week before the oral presentation, to allow students time to incorporate feedback into the presentation. Students will identify up to 3 specific learning objectives for the oral presentations.

Examinations. 15% each of grade. There will two examinations during the class that will include a combination of question types (e.g. multiple choice, matching, open-ended, interpretation of information). The first exam will cover material from the first half of the semester, and the second exam will cover information from the second half, including content from the student presentations.

Book club participation (bonus points on exam) We will have a book discussion late in the semester. Participating in the book discussion is optional, but it will provide 3 bonus points to one of the exams.

Grading

Requirement	Points or % of final grade
Homework	15%
Article presentations	10%
Assignments	10%
Class participation and attendance	5%
Written Paper	15%

Oral Presentation	15%
Exam 1	15%
Exam 2	15%

The grading scale for this course consists of the standard scale, including minus grades, below:

Example:

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. The GPA for graduate students must be 3.0. in all 5000 level courses and above to graduate. A grade of C counts toward a graduate degree only if a sufficient number of credits in courses numbered 5000 or higher have been earned with a B+ or higher. In addition, the Bachelor of Health Science Program does not use C- grades.

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>

Exam Policy

Policy Related to Make up Exams or Other Work

Attendance and Make-up Work –Personal issues with respect to class attendance or fulfillment of course requirements will be handled on an individual basis.

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

5% of grade is related to class participation. 1-2 excused absences are allowed; additional absences will count against this grade. Excused absences must be consistent with university policies in the Graduate Catalog (<http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#attendance>) and require appropriate documentation. Additional information can be found here:

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

STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT

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, it is strongly recommended you register with the Dean of Students Office <http://www.dso.ufl.edu> within the first week of class or as soon as you believe you might be eligible for accommodations. The Dean of Students Office will provide documentation of accommodations to you, which you must then give to me as the instructor of the course to receive accommodations. Please do this as soon as possible after you receive the letter. Students with disabilities should follow this procedure as early as possible in the semester. 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.

Inclusive Learning Environment

Public health and health professions are based on the belief in human dignity and on respect for the individual. As we share our personal beliefs inside or outside of the classroom, it is always with the understanding that we value and respect diversity of background, experience, and opinion, where every individual feels valued. We believe in, and promote, openness and tolerance of differences in ethnicity and culture, and we respect differing personal, spiritual, religious and political values. We further believe that celebrating such diversity enriches the quality of the educational experiences we provide our students and enhances our own personal and professional relationships. We embrace The University of Florida's Non-Discrimination Policy, which reads, "The University shall actively promote equal opportunity policies and practices conforming to laws against discrimination. The University is committed to non-discrimination with respect to race, creed, color, religion, age, disability, sex, sexual orientation, gender identity and expression, marital status, national origin, political opinions or affiliations, genetic information and veteran status as protected under the Vietnam Era Veterans' Readjustment Assistance Act." If you have questions or concerns about your rights and responsibilities for inclusive learning environment, please see your instructor or refer to the Office of Multicultural & Diversity Affairs website: www.multicultural.ufl.edu
