

UF in Cusco: Understanding Infectious Diseases

Summer A 2019

Instructor: Dr. Kristen Sauby

Office hours: Scheduled as needed

Email: ksauby@ufl.edu Phone:

COURSE GOALS AND OBJECTIVES

The goal of this course is to complement your service learning experiences in Cusco with a theoretical and empirical grounding in emerging infectious disease, particularly the ecology and evolution of emerging infectious disease. This course provides an overview of human infectious diseases, and will include discussions of the challenges of combating these diseases in a variety of locations across the world. After an initial look at how epidemics grow, we will focus on a different mode of transmission and the associated diseases.

EXPECTATIONS

Each student is solely responsible for reading and following the instructions, guidelines and schedules in this syllabus and on the course webpage, or announced in class. Not having read the information in this syllabus or in instructor announcements will not constitute an excuse for missing an assignment, exam, or other assessment. **Attendance in class is required; absences are excused at the instructor's discretion for illness and/or emergencies.**

Changes to the course schedule (including class cancellations) will be announced in class and/or via WhatsApp.

PREREQUISITES

Prereq: BSC 2011 and 2011L with minimum grades of C and undergraduate advisor permission.

COURSE RESOURCES & REQUIRED TEXTS

The required texts for the class include:

1. Infectious Disease: A Very Short Introduction, 2015, Wayne & Bolker, Oxford University Press, 144 pages. Dr. Marta Wayne is the chair (head) of the University of Florida Department of Biology.

This book will serve as our "textbook," providing us the theoretical and empirical background of the ecology and evolution of emerging infectious disease.

1.

1. Mountains Beyond Mountains: The Quest of Dr. Paul Farmer, A Man Who Would Cure the World, 2004, Tracy Kidder, Random House, 322 pages.

This work of narrative non-fiction will serve to stimulate thought about the importance and challenges of delivering health care to a diversity of populations around the world, and the importance of considering disease ecology and evolution (e.g., the evolution of multi-drug resistant strains of tuberculosis) when planning the delivery of health care services.

Other required reading assignments will be provided as PDFs.

COURSE ASSESSMENT AND GRADING

These requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with UF policies that can be found in the online catalog at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx> (Links to an external site.)Links to an external site..

Class meetings

Attendance at class meetings is mandatory. The class will generally meet for two hours on each day as scheduled below. Changes to the schedule, e.g. to deal with unpredicted logistical challenges, will be announced with as much advance notice as possible and made in coordination with other scheduled activities. Due to the active learning nature of the class, your presence and participation are essential.

Any missed classes for reasons other than sickness will be penalized by a zero for class participation on that day. If you are sick and thus absent, please notify me within 24 hours by WhatsApp or email.

Class is offered for a letter grade; no S/U option is possible. The topics listed below are examples of what we will discuss in class, but we will also try to incorporate relevant experiences from your service placements, as well as news of ongoing or emerging epidemics.

Class participation

You will receive class participation credit. This will be based on the following:

- Class attendance,
- Doing the reading **prior** to coming to class,
- Turning in three questions you had from each chapter of Infectious Disease: A Very Short Introduction (see schedule below for chapter due dates),
- Participation in face-to-face discussions,
- Review of one another's essays, and
- Participation in other active learning work during class.

Relative Value of Assignments

| Assignment Type | Percentage Worth |
|--|------------------|
| Class participation (20%) | |
| Week 1 | 3.33% |
| Week 2 | 3.33% |
| Week 3 | 3.33% |
| Week 4 | 3.33% |
| Week 5 | 3.33% |
| Week 6 | 3.33% |
| Written Assignments (50%) | |
| Simulation assignment | 10% |
| Short Essay 1: Compare/contrast epidemiology of Gainesville, Cusco | 10% |
| Short Essay 2: Respiratory Infections | 10% |
| Short Essay 3: Press Release | 10% |
| Short Essay 4: STIs, Sexual Health, and UF Undergraduates | 10% |
| Final project (30%) | |
| Final Project Groups & Topics | 1% |
| Project Proposal | 1.50% |
| Draft Final Project | 5% |
| Peer Review | 2.50% |
| Final Project | 20% |
| 100% | |

SIR simulation assignment

At the end of the first full week (week 2 above), you will use the simulation software called EpiFire to explore the relationship between how infectious a disease is and how many people end up getting infected. In lieu of a normal essay, you will make a figure illustrating this relationship using data you generate. This figure should be accompanied by a 50-100 word caption explaining the relationship.

Short essays

During the course you will also write four short (300-word) essays. The topics and style of the essays will vary, with assignment details provided to you in advance. **Due dates will be posted on Canvas; assignments are due at 9:00 am unless otherwise noted.**

Late assignments will be penalized by 5% each day or fraction thereof. Please note, in order to minimize computer “infections” when sharing one another’s work, only .pdf or .txt submissions will be accepted.

Final project

For your final project, you will work in small groups to write a similar chapter to those in the book focusing on an emerging disease relevant to Perú (preferably in the Cusco or Andean regions, but you may include the whole country). You suggest the parasite/disease, perhaps informed by your placements, for professor approval. Examples could include Bartonellosis, Mayaro, Chagas, etc. Through the lens of the disease you select, you can explore a range of relevant topics depending on your interest, from the legacy of colonialism on health care, to the possible role of global change in mosquito (and hence disease) distribution, to the use of evolutionary theory in understanding origins of outbreaks. The chapter should include detailed references from the primary literature as well as other sources you may wish to include; and should draw upon material from Chapter 2. The audience you are writing for is well-educated and scientifically literate, but not necessarily experts in your subject—essentially, your classmates. If you wish, you may incorporate illustrations or images. **Make note that this will be due not only the last week of class, but the last week in Cusco. You may want to aim to get the project done the week *before* so that you have time set aside for last-minute Cusco sight-seeing trips! Plan ahead so that you can enjoy your last week in Cusco!**

Grading

Minimum grade cutoffs are listed below. The scores for the course as a whole will not be curved (i.e. these grade cutoffs will not be lowered or raised) except under extremely rare circumstances (i.e., unless we tell you otherwise). In other words, if you receive 90% of the possible points, you are guaranteed to earn an A grade. **Final scores will NOT be rounded** (i.e., 89.99% is not 90%).

| Point Range (%) | Letter Grade |
|-----------------|--------------|
| ≥ 90.00 | A |
| ≥ 86.66 | A– |
| ≥ 83.33 | B+ |
| ≥ 80.00 | B |
| ≥ 76.66 | B– |
| ≥ 73.33 | C+ |
| ≥ 70 | C |
| ≥ 66.66 | C– |
| ≥ 63.33 | D+ |
| ≥ 60 | D |
| ≥ 56.66 | D– |
| < 56.66 | E |

UNIVERSITY AND PROGRAM POLICIES

Academic Integrity

All students are required to abide by the Academic Honesty Guidelines of the University. The UF Honor Code reads: *"We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity."* On all work submitted for credit by students 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." For more information please refer to <http://www.dso.ufl.edu/studentguide> (Links to an external site.)Links to an external site..

Accommodations

Students requesting classroom accommodation must register with the Dean of Students Office well in advance of the program. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation. Additionally, because this is an international program, students must meet with the instructor prior to arrival in Perú to determine how accommodations will be handled. For more information see <http://www.dso.ufl.edu/drc> (Links to an external site.)Links to an external site..

Academic and Behavioral Expectations

These policies have been adapted from the University of Florida International Center's <http://ufic.ufl.edu/SAS/Forms/UFIC%20Emergency%20Protocols.pdf> (Links to an external site.)Links to an external site..

UF Study Abroad programs require all students to attend all formal classes, supplemental instructional components of the program (lectures, meetings with invited experts, seminars, etc. apart from formal class time), and all excursions which are a part of the program itinerary. The only acceptable excuse for missing a class, supplemental instructional component or an excursion is illness or injury. Attendance will be taken at all classes and excursions. Your grade will suffer if you do not attend class.

Participants in a Study Abroad program are also expected to serve as ambassadors for both UF and the United States. Students need to be aware that behaviors with minimal or no consequences at UF may have major implications for the Study Abroad program, including appropriate dress, local laws, local mobility (which neighborhoods in the area are safe), gender dynamics, youth/elder relationships, food and meal etiquette, and how to recognize signs of displeasure on the part of host country nationals. While students do have free time during the program and – as adults – can certainly decide how they wish to spend this time, you are discouraged from participating in any kind of activity that might be harmful to yourselves or others or that could reasonably be expected to diminish the quality or integrity of the learning environment established by the faculty leader. Faculty will NOT be supervising students during their free time except in emergency circumstances.

Students have a right to due process in the event that faculty instructors must deal with behavioral issues. Behavioral issues will be first discussed with the student (if possible), and if severe enough or if a pattern of behavioral issues takes place, students will be reported to

the Dean of Students and the University of Florida International Center. The University of Florida may then decide whether or not to send the student home from the program.

UF Medical Amnesty Policy

Many issues while studying abroad can arise because of drug and/or alcohol consumption. Recall that the ISA Code of Conduct, which you signed, states that "If an ISA participant is not of legal age, he/she is prohibited from drinking alcohol." However, I will not be policing your behavior. You may want to consider having a "designated walker" who remains sober and can be relied upon to make wise decisions or other students in the group.

Note by K. Sauby - I have copied the following text from <https://shcc.ufl.edu/about/uf-medical-amnesty-policy/> (Links to an external site.)Links to an external site. - please follow the link for additional information. Some of the emphasis is mine.

"The University of Florida (UF) encourages a living and learning environment that promotes the health and safety of all members of the UF community. Drug or alcohol consumption — including excessive consumption, consumption of a dangerous substance, or consumption by someone with sensitivity — can cause serious physical and neurological harm or be life-threatening. As such, students are encouraged to make responsible decisions and to seek medical attention in serious or life-threatening situations that result from alcohol and/or other drug abuse; students are also encouraged to seek help for any situation where medical treatment is reasonably believed to be appropriate. **If a student is so intoxicated s/he is unable to be awakened, letting that person “sleep it off” is not a reasonable alternative to getting him/her the necessary medical help.** Students may be hesitant to seek help in such emergencies because of fear of potential conduct and disciplinary consequences for themselves, the person in need of medical attention, or the organization hosting the event where the situation occurs.

"If medical attention is required, students should immediately contact professional medical personnel. **A (1) student who seeks emergency assistance on behalf of him- or herself, another student, or a friend experiencing an alcohol and/or other drug related emergency, as well as (2) the individual in distress will not be subject to disciplinary action nor mandatory alcohol and other drug sanctions under the UF Student Code of Conduct, as explained below.**"

Follow the link above to read more information.

UNIVERSITY SUPPORT SERVICES

College can be a very stressful time in a person's life. Resources are available on campus to help students meet academic goals and solve personal problems, which may interfere with their academic performance. If you find that you are having difficulty emotionally or academically, there is substantial support available. See "[A Self Help Guide for Students](#) (Links to an external site.)Links to an external site." or contact on of the following services:

1. [UF Counseling and Wellness Center](#) (Links to an external site.)Links to an external site., Radio Rd Facility, 392-1575

2. [Dean of Students Office](#) (Links to an external site.)Links to an external site., 202 Peabody Hall, 392-1261
3. [Career Resource Center](#) (Links to an external site.)Links to an external site., Reitz Union, 392-1601
4. [CLAS Academic Advising Center](#) (Links to an external site.)Links to an external site., Farrior Hall, 100 Fletcher Drive, 392-1521

Also available is the The U Matter, We Care initiative, which is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact umatter@ufl.edu so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength.

COURSE SCHEDULE

This schedule is subject to change.

| Week | Date | Day | In-class Activities | Assignments/Reading: Due at Beginning of Class |
|---|---------|-----------|---|--|
| Week 1 - Orientation & Introduction | 5/13/19 | Monday | Cusco Walking Tour | |
| | 5/14/19 | Tuesday | Intro to Public Transit and Service Placements | |
| | 5/15/19 | Wednesday | Introduction to class Review of syllabus Paul Farmer 60 Minutes Interview Intro to Short Essay Assignment Motorcycle Diaries Part 1 | |
| | 5/16/19 | Thursday | Discussion of chapters 1 and 2 Motorcycle Diaries Part 2 | Infectious Diseases book, Ch. 1, Introduction Infectious Diseases book, Ch. 2, Transmission at different scales |
| | 5/17/19 | Friday | TBD | <u>The Perpetual Challenges of Infectious Diseases</u> <u>Short Essay 1, Part 1: Compare/contrast epidemiology of Gainesville and Cusco</u> |
| 5/18/19 - 5/19/19, Saturday - Sunday, Pisac and Awanakancha | | | | |
| Week 2 - Disease dynamics | 5/20/19 | Monday | Contagion movie, part 1 Discussion of influenza Discussion of press release assignment | read to p. 121 in Mountains Beyond Mountains |
| | 5/21/19 | Tuesday | TBD Contagion movie, part 2 | Infectious Diseases book, Ch. 3, Influenza |
| | | | | <u>1918 Influenza: the Mother of All Pandemics</u> <u>How to read a paper</u> |
| | 5/22/19 | Wednesday | NO CLASS | |
| | 5/23/19 | Thursday | Simulation Assignment | <u>Read From West Africa to Westeros: how mathematical modelling can help save lives article AND check out animated gif in article</u> |
| | 5/24/19 | Friday | TBD | Short Essay 2: Press Release |
| 5/25/19 - 5/26/19, Saturday - Sunday, no | | | | |

| class | | | | |
|--|--|-----------|--|--|
| Week 3 - Viral Ecology/ Evolution | 5/27/19 | Monday | And the Band Played On, Part 1 | 122-210 in Mountains Beyond Mountains Turn in simulation assignment |
| | 5/28/19 | Tuesday | Planning of Final Project Groups & Topics And the Band Played On, Part 2 The Plague Of Our Time: The HIV/AIDS Epidemic | Smallpox: The Triumph over the Most Terrible of the Ministers of Death |
| | 5/29/19 | Wednesday | NO CLASS | |
| | 5/30/19 | Thursday | TBD | Infectious Diseases book, Ch. 4, HIV - 3 Qs |
| | 5/31/19 | Friday | TBD | Short Essay 1, Part 2: Compare/contrast epidemiology of Gainesville and Cusco |
| | 6/1/19 - 6/2/19, Saturday - Sunday, no class | | | |
| Week 4 - Bacterial Disease Ecology/ Evolution | 6/3/19 | Monday | TBD | Worldwide Emergence of Extensively Drug-resistant Tuberculosis Infectious Diseases book, Ch. 5, Cholera |
| | 6/4/19 | Tuesday | TBD | Project Proposal Due How to search the literature |
| | 6/5/19 | Wednesday | NO CLASS | |
| | 6/6/19 | Thursday | TBD | Short Essay 3: Respiratory Infections |
| 6/7/19 - 6/9/19, Friday - Sunday, Machu Picchu Field Trip | | | | |
| Week 5 - Sexually Transmitted Diseases and Parasitic Disease Ecology/ Evolution, Vector-borne infections | 6/10/19 | Monday | TBD, Trouble with Antibiotics part 1 | Sexually transmitted infections: challenges ahead |
| | 6/11/19 | Tuesday | TBD, Trouble with Antibiotics part 2 | Infectious Diseases book, Ch. 6, Malaria |
| | 6/12/19 | Wednesday | NO CLASS | |
| | 6/13/19 | Thursday | TBD | Short Essay 4: STIs, Sexual Health, and UF Undergraduates |
| | | | | |

6/15/19 - 6/17/19,
Saturday - Monday,
Puno and Lake Titicaca

| | | | | |
|--|---------|-----------|---------------------------------|---|
| Week 6 - Current issues in epidemiology | 6/18/19 | Tuesday | Vaccines - Calling the Shots | Infectious Diseases book, Ch. 7 - 3 Qs finish Mountains beyond Mountains Measles in 2019 - Going Backward |
| | 6/19/19 | Wednesday | TBD | Infectious Diseases book, Ch. 8 - 3 Qs A Mysterious Infection, Spanning the Globe in a Climate of Secrecy |
| | 6/20/19 | Thursday | TBD | <u>Final Project Due</u> <u>Final Project Peer Review</u> <u>Due</u> |