

**University of Florida**  
**College of Public Health & Health Professions Syllabus**  
**PHC 6520: Introduction to Foodborne Diseases (3 credit hours)**  
Spring: 2022  
Delivery Format: Online (Asynchronous)  
E-Learning Website (<https://ufl.instructure.com/courses/xxxxxx>)

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**Instructor Name:** Song Liang, PhD  
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**Email Address:** [songliang@ufl.edu](mailto:songliang@ufl.edu)  
**Office Hours:** By appointment  
**Teaching Assistants:** None  
**Preferred Course Communications** (e.g. email, office phone): Canvas Inbox

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### **Prerequisites**

PHC6001 (Principles of Epidemiology), or consent of the instructors

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## **PURPOSE AND OUTCOME**

### **Course Overview**

This intermediate level course is intended for graduate students and health professionals. The purpose of the course is to introduce students to major foodborne pathogens, their epidemiology and associated disease burdens, approaches to outbreak investigation and control of foodborne illness. The course combines lectures, case studies, discussions, and a class project.

### **Relation to Program Outcomes**

This course provides primary gains or reinforcement of the following competencies:

1. Identify and understand the historical context of epidemiology, epidemiologic terminology, study designs, and methodologies
2. Demonstrate ability to analyze and interpret epidemiologic data
3. Explain and communicate current epidemiologic and public health problems for informing scientific, ethical, economic, and political discussions of health problems
4. Demonstrate knowledge and skills needed to design and implement a public health information campaign
5. Demonstrate communication skills key to public health workforce participation and advocacy
6. Identify, retrieve, summarize, manage, and communicate public health information
7. Demonstrate the principles of problem solving and crisis management
8. Describe biological, physiological, and psychosocial factors that affect susceptibility to adverse health outcomes following exposure to environmental hazards
9. Specify approaches for assessing, preventing, and controlling environmental hazards that pose risks to human health and the environment

### **Course Objectives and/or Goals**

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

1. Assess the public health disease burden of key foodborne diseases;
2. Characterize the major bacterial, viral, and parasitic foodborne pathogens, including, for each, clinical presentations, epidemiology, points of entry into the food chain, and approaches to prevention;
3. Explain application of HACCP programs in food safety;
4. Describe concepts underlying development of risk-based regulatory systems;

5. Understand the contribution of environmental/preharvest/postharvest/transport/retail/ restaurant factors to overall food safety; and
6. Describe the legal basis for current food regulatory systems in the United States and the European Union.

### Instructional Methods

1. Lectures are for orientation. Students are responsible for all the material presented in the lectures and are strongly urged to complete assigned readings.
2. Readings and Resources: In addition to the text, supplementary readings and resources may be posted in the course site. The readings may be supplemented during the course.
3. Assessments: A variety of assessments will be used in this course, including case studies, exams, and a special project and discussion.

### 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.

## DESCRIPTION OF COURSE CONTENT

### Topical Outline/Course Schedule

Weeks	Topic	Lecturer	Reading	Assignment
<b>Week 1</b> Jan. 5-7	Introduction	Glenn Morris Song Liang		Syllabus quiz Due 1/7
	Estimates of disease burden associated with foodborne disease	TBD	Chapters 1&2	
<b>Week 2</b> Jan. 10-14	Bacterial pathogens: Salmonella (clinical manifestations, epidemiology, prevention)	Soohyoun Ahn	Chapter 5	Case study I Due 1/14
<b>Week 3</b> Jan. 17-21	Bacterial pathogens: <i>E. coli</i>	Glenn Morris	Chapter 8	Case study II-1 Due 1/21
<b>Week 4</b> Jan. 24-28	Bacterial pathogens: Campylobacter	Soohyoun Ahn	Chapter 9	
<b>Week 5</b> Jan. 31-Feb. 4	Bacterial pathogens: Vibrios	Anita Wright	Chapter 7	Case study II-2 Due 2/4
	Bacterial pathogens: Listeria, Yersinia	Glenn Morris	Chapters 10&11	
<b>Week 6</b> Feb. 7-11	Norovirus, Astrovirus, Sapovirus	Stephanie Karst	Chapters 17,20,&22	
<b>Week 7</b> Feb. 14-18	Toxin-mediated illness: botulism, staphylococcal food poisoning HABs	Glenn Morris	Chapters 27,28,&31	Case study II-3 Due 2/18
<b>Week 8</b> Feb. 21-25	Parasites and prions	Song Liang	Chapters 23,25,&26	
<b>Week 9</b>	Microbial risk assessment	Song Liang	Chapter 3	Midterm exam

Feb. 28-Mar.4	HACCP, development of risk-based food safety systems	Glenn Morris	Chapters 4&35	Open 2/25-2/28
<b>Week 10</b> Mar. 7-11	No class			Spring break
<b>Week 11</b> Mar. 14-18	Preharvest food safety: animals	Chad Carr		
	produce	Michelle Danyluk		
<b>Week 12</b> Mar. 21-25	Foodborne disease surveillance and outbreak investigations	Carina Blackmore	Chapters 33&34	
	Food safety monitoring	Tiffiani Onifade		
	Risk-Based Inspections	Cynthia Walker		
<b>Week 13</b> Mar. 28-Apr. 1	Legal basis for food safety regulation	Caroline Smith DeWaal	Chapter 36	
<b>Week 14</b> Apr. 4-8				Project presentations: Class Project due in Assignments and Discussions by 4/4
<b>Week 15</b> Apr. 11-15				Project presentations : Peer Comments on Class Projects due in Discussions by 4/15
<b>Week 16</b> Apr. 18-22	Final exam review			Final exam Open 4/22 – 4/25
<b>Week 17</b> Apr. 25-29				

### Course Materials and Technology

#### **Textbook**

Morris JG, Potter ME (eds, 2013). Foodborne Infections and Intoxications, 4th ed. Academic Press

#### **Additional Technology:**

#### **Video**

You need to have the means of creating a short video for upload to YouTube. This can be a handheld recording device, including a mobile device that can capture video. This can also include programs capable of compiling presentations into a video format accepted by YouTube.

#### **Webcam**

Students are REQUIRED to have a webcam in place during the test-taking period.

#### **Getting started in this course**

In order to start accessing the materials in this course, students must take, and pass with a 100% score, a syllabus quiz. Please complete the Getting Started module, review the syllabus thoroughly, and successfully complete the quiz. You may take this quiz as many times as necessary to achieve the 100% score. Feedback after your quiz submission will be provided to ensure that you can review any missed answers. This is an ungraded exercise, but is critical to insure that all students understand the requirements of this course.

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

- [Learning-support@ufl.edu](mailto:Learning-support@ufl.edu)
- (352) 392-HELP - select option 2
- <https://elearning.ufl.edu/help.shtml>

## ACADEMIC REQUIREMENTS AND GRADING

### Assignments

#### Case Studies

Case studies are to provide students with the opportunity to work through examples of foodborne disease outbreak investigations to reinforce principles, concepts, and techniques covered in lectures. We have adopted two case studies developed by the Centers for Disease Control and Prevention (CDC). The case studies are self-instructional exercises based on real-life outbreaks and public health problems. Each case study includes an introduction (of the outbreak) and 6-7 steps for conducting the outbreak investigation, and at each step, there are specific questions which require students to answer. The first case study is web-based and the students are required to submit a progress report (based on answers to questions at each step) and certificate of completion (note: screenshots are acceptable). The second case study involves three sections, and each requires the students to answer a few questions. Please submit a report of your brief answers to the questions in each section. Each assignment may take 2-4 hours to complete. Grading will be based on completion of the report.

The first case studies can be accessed from the CDC website. The second case study is posted on the course website. The case studies should be conducted in the following order:

1. *Salmonella* in the Caribbean – Case study I (<http://www.cdc.gov/epicasestudies/computerbased.html>)
2. Gastroenteritis at a University in Texas – Case study II-1 (Question 1-9 in Part I & II)
3. Gastroenteritis at a University in Texas – Case study II-2 (Question 10-17 in Part III, IV & V)
4. Gastroenteritis at a University in Texas – Case study II-3 (Question 18-24 in Part VI, VII & VIII)

#### Class Project

Each student will be required to undertake an individual project relevant to control of foodborne diseases. Projects may involve original research (e.g. a study involving data collection and analysis; check with instructors if a research project is envisioned that will involve human subjects), or may provide an in-depth review of a key element of foodborne disease control. Material is to be presented in a 12-minute video, which will be posted in an unlisted posting in YouTube (<http://youtube.com>). The video may be done using one or more formats, including standard PowerPoint presentations, direct verbal presentations, and/or inclusion of “on site” material highlighting key elements of disease control (ranging from on-farm sources of contamination through kitchen sanitation and food preparation). Creativity is encouraged, and materials that could subsequently be used by students in public outreach activities would be particularly welcome. Detailed information on this assignment and how to post in YouTube is posted in the Assignment tool within the course site.

A discussion board will be posted for each project, and the students will be encouraged to comment on work done by other students in the class. The class project will count for 25% of the total grade - the project itself will count for 20% and an additional 5% will be based on the student’s responses on the discussion boards to

work done by the other students. Please see the course schedule for details and due dates. The grading rubric for the class project primarily encompasses creativity, originality, professional quality, effective use of multimedia, and fulfilling requirement of assignments.

### Exams

Midterm and final exams will test students' grasp of key knowledge and principles covered in class and application of such knowledge to public health practices. The exams will include multiple-choice, true/false, fill-in-the-blank, and matching questions. The midterm will be worth 25% and the final will be worth 30% of your overall course grade. The final exam will be cumulative (i.e. based on materials covered in whole semester) but mostly on the 2<sup>nd</sup> half (i.e. from midterm and onward). For both midterm and final exam, a review question sheet, based on lectures and reading materials, will be posted on the course website one week before the exam

### Grading

Requirement	Due date	Points or % of final grade
Case Study I	1/14	5%
Case Study II-1	1/21	5%
Case Study II-2	2/4	5%
Case Study II-3	2/18	5%
Midterm	Open 2/25 – 2/28	25%
Class Project	Weeks 14 and 15	25%
Final	Open 4/22 – 4/25	30%

### Point System Used

%	93% to 100%	90% to 92%	87% to 89%	83% to 86%	80% to 82%	77% to 79%	73% to 76%	70% to 72%	67% to 69%	63% to 66%	60% to 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>

### Exam Policy

#### Exam Proctoring Service

Honorlock will be used for online proctoring services for the exams in this course. This service will be used by all students taking this course online, regardless of whether you are an on-campus student or not. Detailed guidelines for this proctoring system are available on your course website.

### **Policy Related to Make up Exams or Other Work**

The expectation of this course is that you will view all lectures, read all reading assignments and complete assessments and assignments according to the syllabus schedule. Personal issues with respect to class participation or fulfillment of course requirements will be handled on an individual basis.

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 the instructor within 24 hours of the technical difficulty if you wish to request a make-up.

### **Policy Related to Required Class Attendance**

As an online asynchronous course there is no classroom attendance required. Student participation in the course site is tracked by the Canvas system and may be referenced in regard to student participation and course advancement.

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>

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## **STUDENT EXPECTATIONS, ROLES, AND OPPORTUNITIES FOR INPUT**

### **Communication Guidelines**

Please use the Inbox tool in canvas for all communication.

### **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/>.

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## 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.

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