

**PHC 6002: Epidemiology of Infectious Disease**  
**Summer C, 2014**  
**Online Course: <http://lss.at.ufl.edu>**

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

### **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.

### **Course Objectives**

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.

### **Getting Started**

To start this course you MUST open the “Exams” tool in the course and take the Syllabus Quiz. You MUST earn a 100% score on this quiz in order for the course materials to open in the course site. If you do not receive a 100% score, please review the feedback on your quiz attempt and retake as soon as possible. This is an important element to insure that all students are aware of the curriculum requirements for this course. If you have ANY difficulty with this quiz, please send an email in the course to “All instructors” as soon as possible (be sure to check the “send to outside email...” box).

The first assignment in this course is Discussion Board 1 – found “Discussion” tool. This is a graded assignment to allow the instructor and students to get to know each other better. Please complete this as soon as possible, but no later than May 18<sup>th</sup>.

After successful completion of the syllabus quiz, the “Weekly Lessons” tool will open in the left tool bar of the course site. Please click on this tool and start with “Week 1”. Here you will find the course materials that will take you through to the last week of the course.

## ***Elements of this course:***

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

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

Heymann, David, MD. Control of Communicable Diseases Manual, 19<sup>th</sup> 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.

Supplemental readings will also be assigned for lectures and are posted by topic under the course schedule.

Required material: Students enrolled in this course must have a working webcam and microphone for taking exams (see exams section of syllabus).

### **3. Additional resources (You should sign up for the following by (Sunday May 18th)**

1. Infectious Disease list serve. Pro-med: [www.promedmail.com](http://www.promedmail.com) Click on the subscribe link. (HINT: sign up only for the “Pro Med Digest A consolation of Posts” only)
2. Morbidity and Mortality Weekly Report: <http://www.cdc.gov/mmwr/mmwrsubscribe.html>
3. (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.
4. (Optional) Desowitz, Robert. New Guinea Tapeworms and Jewish Grandmothers: Tales of Parasites and People. New York: W.W. Norton & Co., 1987.
5. (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 will be a two-hour midterm and a two-hour final exam. Exams will be administered in Sakai with a proctoring service (See below).

This course will be utilizing the services of ProctorU as proctoring service for the exams in this course. This service is a user-friendly system, but you must follow these guidelines to register and take your exams:

- Students must register for a time slot for their course exams with ProctorU starting the second week of the semester, but no later than 3 days prior to an exam. You will register for your exams at [www.proctoru.com](http://www.proctoru.com). Their website will describe how you register and log on for your exam. Your exams will be taken in your Sakai course, but only ProctorU will be able to open the exam for you.
- Exams will be available via ProctorU 8:00AM – midnight (Eastern time) from Monday through Sunday during the exam period only on the days the exams are scheduled in this course.
- Students will need to have a microphone and webcam in place during the test-taking period. An inexpensive webcam and mic will work fine. Students will **NOT** be allowed to take an exam without a webcam. (Note: a microphone and webcam are program requirements for our online programs, see computer requirements on our program website)
- Students will be asked to show 1 or 2 forms of ID with a picture and ask some questions as part of their public record for identification purposes.

- Exams may be taken at a student’s home, but students must plan to take their exams in an environment where other people are not in the room with the student during the exam. No phones, no other computers/tablets, no TV. See the “Taking Exams” document posted in the tool column in your course site for more information on taking exams in this course.

**5. Discussion Boards:** There is one mandatory discussion board due the first week of class; this is for you to introduce yourself to the class. The rest of the discussion boards are designed for discussion on specific topics. Each lecture will have a dedicated discussion board to discuss the material and assignments for that lecture. These are optional discussion boards; it is your choice to post to these. If you do choose to post it must be something that is appropriate to the topic. There is also a general discussion board section, an exercise and project discussion board section, timely topic discussion boards, and boards to discuss the exams. These discussion boards are not for grades but to assist you in the course.

**6. Class exercises:** There will be a total of four class exercises due. You can retake these outbreak exercises as many times as you like to improve your end score. Each exercise is worth 5% of your course grade (total 20%). See more information, and due dates, on these assignments via the “Assignments” 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 and your final project is due 7/27. Only submit your final paper to be graded.

**Grading Method:**

- June 19-22 – Midterm exam 25%
- July 27<sup>th</sup> – Final Project – see instructions for additional deadlines 25%
- August 1-4 – Final exam 25%
- Class discussion board Introduction 5%
- Exercises – various due dates, see Assignments link 20%

**Grading:** The grading scale for this course consists of the standard scale below:

93-100 = 4.0 (A)	80-82 = 2.67 (B-)	67-69 = 1.33 (D+)
90-92 = 3.67 (A-)	77-79 = 2.33 (C+)	63-66 = 1.00 (D)
87-89 = 3.33 (B+)	73-76 = 2.00 (C)	60-62 = 0.67 (D-)
83-86 = 3.00 (B)	70-72 = 1.67 (C-)	Below 60 = 0 (E)

**Class website:**

Lectures, lecture notes, readings, instructor contacts, and course schedule are available on the website.

This course will utilize the UF eLearning in Sakai system, which is accessible at <http://lss.at.ufl.edu> or through [my.ufl.edu](http://my.ufl.edu). You must have a valid Gatorlink ID and password. For assistance, call the UF Help Desk at 352-392-HELP or email them at [helpdesk@ufl.edu](mailto:helpdesk@ufl.edu)

**Requirements:** Students are responsible for all course material, including reading all required materials prior to each lecture. The course is conducted in eLearning and all assignments, course lectures, discussions, emails and exams will be delivered in this medium. Students are **required** to print a copy of the syllabus from the syllabus tool in the course. You must take a syllabus quiz and score a 100%. See the “Getting

Started" section on page 1. 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.

**Readings and Discussions:** Students should read the assigned readings prior to viewing course lectures and be prepared to discuss the material on course discussion boards.

**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.

**Make-up Exams and Work:** 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.

**University Honor Code:** *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, the following pledge is either required or implied: *"On my honor, I have neither given nor received unauthorized aid in doing this assignment."* Plagiarism and cheating are serious offenses and will be dealt with as such; any student found cheating on coursework or exams will receive a failing grade on the assignment and potentially in the course, and be routed through the appropriate judicial process.

**Accommodations for Students with Disabilities:** Support services for students with disabilities are coordinated by the [Disability Resource Center](#) in the Dean of Students Office. All support services provided for University of Florida students are individualized to meet the needs of students with disabilities. To obtain individual support services, each student must meet with one of the support coordinators in the Disability Resources Program and collaboratively develop appropriate support strategies. Appropriate documentation regarding the student's disability is necessary to obtain any reasonable accommodation or support service.

**University Counseling and Mental Health Services:**

University Counseling Services: P301 Peabody Hall, 392-1575  
<http://www.counsel.ufl.edu/services.asp>

Student Mental Health Services: Student Health Care Center Room 245, 392-1171  
<http://www.health.ufl.edu/shcc>

## Epidemiology Infectious Disease Course Schedule – Summer C 2014

Module/Week	Elements	Due/Closing Date	
<b>Syllabus Quiz</b> – See “Exams” tool in course site - take until you score a 100% before the course material will open - complete as soon as possible, but no later than May 18 <sup>th</sup>		No later than May 18 <sup>th</sup>	
<b>Week 1</b> <b>May</b> <b>12-18</b>	<b>Lectures</b>		
	1a. Introduction 1b. History of Infectious Diseases 1c. Outbreak Investigations		
	<b>Readings</b>		
	<ul style="list-style-type: none"> <li>• CDC: Steps in an Outbreak Investigation  <a href="http://www.cdc.gov/excite/classroom/outbreak/steps.htm">http://www.cdc.gov/excite/classroom/outbreak/steps.htm</a></li> <li>• Specimen Collection- from UNC.</li> <li>• WHO Death Data (page 1-5): Review the info but please don't memorize  <a href="http://www.who.int/mediacentre/factsheets/fs310/en/index.html">http://www.who.int/mediacentre/factsheets/fs310/en/index.html</a></li> <li>• Control of Communicable Disease Manual (CCDM):                             <ul style="list-style-type: none"> <li>♦ Smallpox</li> <li>♦ Plague</li> <li>♦ Syphilis</li> </ul> </li> </ul>		
<b>Discussion Boards</b>			
<ul style="list-style-type: none"> <li>• Discussion Board 1a: Introduction: Please introduce yourself to your fellow classmates. (mandatory discussion board for all students)</li> <li>• Discussion Board 1b: Discussions on History of Infectious Diseases and Outbreak Investigations- has anyone worked on an interesting outbreak? Please share your experience with us.</li> </ul>		No later than May 18th	
<b>Week 2</b> <b>May</b> <b>19-25</b>	<b>Lectures</b>		
	2a. Immunology 2b. Vaccine Preventable Diseases		
	<b>Readings</b>		
	<ul style="list-style-type: none"> <li>• Vaccine Preventable Deaths and the Global Immunization Vision and Strategy, 2006—2015 MMWR Weekly May 12, 2006 / 55(18);511-515  <a href="http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5518a4.htm?s_cid=mm5518a4_e">http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5518a4.htm?s_cid=mm5518a4_e</a></li> <li>• Laboratory Diagnosis and Immunology: An Overview</li> <li>• CCDM:                             <ul style="list-style-type: none"> <li>♦ Measles</li> <li>♦ Pertussis</li> <li>♦ Polio</li> </ul> </li> </ul>		
	<b>Discussion Boards</b>		
	<ul style="list-style-type: none"> <li>• Discussion Board 2: Discussions on Vaccine Preventable Diseases and Immunology</li> </ul>		
<b>Exercise 1</b>			
Botulism in Argentina <a href="http://www.cdc.gov/epicasestudies/computer_botulism.html">http://www.cdc.gov/epicasestudies/computer_botulism.html</a> Under the “Available to Download” box, please download the “complete package” and complete all sections. See more information on this assignment the Assignment tool in the course. You can retake this exercise as many times as you like. Please only submit the score you want recorded; multiple submissions will not be accepted.		May 25th no later than 11:55PM EDT	

<b>Week 3</b> <b>May 26-</b> <b>June 1</b>	<b>Lecture</b>	
	3. Diarrheal Diseases	
	<b>Readings</b>	
	<ul style="list-style-type: none"> <li>• 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. <a href="http://wwwn.cdc.gov/travel/default.aspx">http://wwwn.cdc.gov/travel/default.aspx</a></li> <li>• Ranking the Risks: The 10 Pathogen Food Combinations with the Greatest Burden on Public Health. (only read the Executive Summary page 7-15) <a href="http://www.rwjf.org/content/dam/farm/reports/reports/2011/rwif70101">http://www.rwjf.org/content/dam/farm/reports/reports/2011/rwif70101</a></li> <li>• CCDM: <ul style="list-style-type: none"> <li>♦ <i>Vibrio cholera</i>                      ♦ Salmonella                      ♦ <i>E. Coli</i></li> <li>♦ <i>Rotavirus</i>                            ♦ <i>Giardia lamblia</i></li> </ul> </li> </ul>	
	<b>Discussion Board</b>	
Discussion Board 3: Discussions on Diarrhea Diseases		
<b>Week 4</b> <b>June</b> <b>2-8</b>	<b>Lectures</b>	
	4a. Zoonotic Diseases	
	4b. Vector Borne and Parasitic Diseases	
	<b>Readings</b>	
	<ul style="list-style-type: none"> <li>• Mosquito-associated Dengue Virus, Key West, Florida, USA, 2010, Emerging Infectious Diseases <a href="http://wwwnc.cdc.gov/eid/article/17/11/11-0419_article.htm">http://wwwnc.cdc.gov/eid/article/17/11/11-0419_article.htm</a></li> <li>• The Socio-Ecology of Zoonotic Infections <a href="http://onlinelibrary.wiley.com/doi/10.1111/j.1469-0691.2010.03451.x/full">http://onlinelibrary.wiley.com/doi/10.1111/j.1469-0691.2010.03451.x/full</a></li> <li>• CCDM <ul style="list-style-type: none"> <li>♦ Dracunculiasis                      ♦ Lyme Disease                      ♦ Malaria</li> <li>♦ Rabies</li> </ul> </li> </ul>	
	<b>Discussion Boards</b>	
	Discussion Board 4: Discussions on Zoonotic Diseases and Vector Borne and Parasitic Diseases.	
<b>Exercise 2</b>		
<i>E. coli</i> O157:H7 Infection in Michigan <a href="http://www.cdc.gov/epicasestudies/computer_ecoli.html">http://www.cdc.gov/epicasestudies/computer_ecoli.html</a> Under the "Available to Download" box, please download the "complete package" and complete all sections. See more information on this assignment the Assignment tool in the course. You can retake this exercise as many times as you like. Please only submit the score you want recorded; multiple submissions will not be accepted.	June 8th no later than 11:55PM EDST	

<b>Week 5</b> <b>June</b> <b>9-15</b>	<b>Lectures</b>	
	5a. Tuberculosis with Michael Lauzardo, MD, MPH 5b. Hospital Infection Prevention and Control with Chaz Rhone, MPH	
	<b>Readings</b>	
	<ul style="list-style-type: none"> <li>National Institute of Health: Detailed Explanation of TB <a href="http://www.niaid.nih.gov/topics/tuberculosis/Understanding/WhatIsTB/Pages/detailed.aspx">http://www.niaid.nih.gov/topics/tuberculosis/Understanding/WhatIsTB/Pages/detailed.aspx</a></li> <li>MMWR: Trends in Tuberculosis --- United States, 2012 <a href="http://www.cdc.gov/mmwr/pdf/wk/mm6211.pdf">http://www.cdc.gov/mmwr/pdf/wk/mm6211.pdf</a></li> <li>Multidrug-resistant tuberculosis (MDR-TB) October 2013 Update- WHO <a href="http://www.who.int/tb/challenges/mdr/mdr_tb_factsheet.pdf?ua=1">http://www.who.int/tb/challenges/mdr/mdr_tb_factsheet.pdf?ua=1</a></li> <li>CCDM: <ul style="list-style-type: none"> <li>Tuberculosis</li> </ul> </li> </ul>	
<b>Discussion Boards</b>		
Discussion Board 5: Discussions on Tuberculosis and Hospital Infection Control		
<b>Week 6</b> <b>June</b> <b>16-22</b>	<b>Midterm Exam</b>	
	Exam through ProctorU – <b>Covers Weeks 1 - 5</b>	Available June 19 - 22
	<b>Discussions</b>	
Discussion Board 6: No topical discussion, see the “Midterm Exam” discussion board for discussions about the exam		
<b>Week 7</b> <b>June</b> <b>23-29</b>	<b>Summer Break!</b>	
<b>Week 8</b> <b>June 30-</b> <b>July 6</b>	<b>Lectures</b>	
	8a. Surveillance Taj Azarian, MPH	
	<b>Readings</b>	
	Principles of Epidemiology in Public Health Practice. Read Lesson 5: Surveillance only.	
	<b>Discussion Board</b>	
	Discussion Board 8: Discussions on Surveillance	
<b>Exercise 3</b>		
Gastroenteritis at a University in Texas <a href="http://www.cdc.gov/epicasestudies/computer_gast.html">http://www.cdc.gov/epicasestudies/computer_gast.html</a> Under the “Available to Download” box, please download the “complete package” and complete all sections. See more information on this assignment the Assignment tool in the course. You can retake this exercise as many times as you like. Please only submit the score you want recorded; multiple submissions will not be accepted.		July 6th no later than 11:55PM EDST

<b>Week 9</b> <b>July</b> <b>7-13</b>	<b>Lectures</b>	
	9a. Influenza	
	<b>Readings</b>	
	<ul style="list-style-type: none"> <li>• Pandemic Influenza Storybook. Take a minute and read a few of the stories submitted. <a href="http://www.pandemicflu.gov/storybook/stories/index.html">http://www.pandemicflu.gov/storybook/stories/index.html</a></li> <li>• CCDM: <ul style="list-style-type: none"> <li>♦ Influenza</li> </ul> </li> </ul>	
	<b>Discussion Board</b>	
Discussion Board 9: Discussions on Influenza		
<b>Week 10</b> <b>July</b> <b>14-20</b>	<b>Lectures</b>	
	Emerging Infectious Diseases with Glenn Morris, MD, MPH, TM	
	<b>Readings</b>	
	Population biology of emerging and re-emerging pathogens <a href="http://www.hawaii.edu/publichealth/ecohealth/si/course-eids/readings/Woolhouse-2002.pdf">http://www.hawaii.edu/publichealth/ecohealth/si/course-eids/readings/Woolhouse-2002.pdf</a>	
	<b>Discussion Board</b>	
	Discussion Board 10: Discussions on Emerging Infectious Diseases	
<b>Exercise 4</b>		
Salmonella in the Caribbean <a href="http://www.cdc.gov/epicasestudies/classroom_salmonella.html">http://www.cdc.gov/epicasestudies/classroom_salmonella.html</a> Under the “Available to Download” box, please download the “complete package” and complete all sections. See more information on this assignment the Assignment tool in the course. You can retake this exercise as many times as you like. Please only submit the score you want recorded; multiple submissions will not be accepted.		July 20th no later than 11:55PM EDST
<b>Week 11</b> <b>July 21-27</b>	<b>Lectures</b>	
	11a. Sexually Transmitted Infections (STIs ) and HIV/AIDS	
	<b>Readings</b>	
	<ul style="list-style-type: none"> <li>• NIAID-Supported Scientists Discover Origin of HIV-1 <a href="http://www.niaid.nih.gov/news/newsreleases/1999/Pages/hivorigin.aspx">http://www.niaid.nih.gov/news/newsreleases/1999/Pages/hivorigin.aspx</a></li> <li>• Human Papillomavirus Vaccination Coverage Among Adolescent Girls, 2007–2012, and Postlicensure Vaccine Safety Monitoring, 2006–2013 — United States, MMWR. <a href="http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6229a4.htm">http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6229a4.htm</a></li> <li>• 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”. <a href="http://articles.mercola.com/sites/articles/archive/2013/07/16/hpv-vaccine-effectiveness.aspx">http://articles.mercola.com/sites/articles/archive/2013/07/16/hpv-vaccine-effectiveness.aspx</a></li> </ul>	
	<b>Discussion Board</b>	
	Discussion Board 11: Discussions on STIs and HIV/AIDS	
<b>Final Project Due</b>		
Submit your final project paper as a Word attachment via the Assignment tool. Your paper will be checked for originality through Turnitin. Check your originality score, edit as necessary, and re-submit no later than July 27 before 11:55PM. See the Assignment “Final Project” in the course site.		July 27th no later than 11:55PM EDST

<b>Week 12</b> <b>July 28-</b> <b>August 3</b>	<b>Lectures</b>	
	12a. Molecular Epidemiology	
	<b>Readings</b>	
	To be determined	
	<b>Discussion Board</b>	
Discussion Board 12: Molecular Epidemiology: Conversations on molecular epidemiology and its uses		
<b>Week 13</b> <b>August</b> <b>1-8</b>	<b>Final Exam</b>	
	Exam through ProctorU – <b>Covers all class material. Weeks 1 - 13</b>	Available August 1-4
	<b>Discussion Board</b>	
	Final Exam discussion board	