

College of Public Health & Health Professions
PHC 6001
Principles of Epidemiology in Public Health
Spring 2015
e-Learning in Sakai

Instructor Information

Instructor

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Office Hours: Since this is a completely online course and most of us are located off-campus, I will not have physical office hours. Instead, I will make every effort to address any questions submitted via email or the Open Discussion boards within 72 hours. Email and the discussion boards are the preferred means for contacting me.

Teaching Assistants are also available to answer questions submitted via email or via Discussion Board.

Teaching Assistants

Joseph Brew

Email: joebrew@ufl.edu

Telephone: (352) 318-4553

Skype: joebrew

Google hangouts: joebrew

Office hours:

Available via email and discussion boards.

To set up an in-person meeting, please coordinate with me via email.

Course Overview

This course is an introduction to epidemiology for students majoring in any aspect of the health sciences. This course presents the principles and methods of the epidemiological investigation of both infectious and non-infectious diseases. The purpose of this course is to equip students with the necessary knowledge and skills to explain the place of epidemiology in the general health thinking and to communicate and apply the basic principles of epidemiology. Examples of the use of the principles of epidemiology will be presented so that the student will have sufficient understanding to apply such principles in future health work. It is hoped that the course will allow the student to critically read and evaluate his/her public health work using epidemiological principles. This course is not intended to present the epidemiological aspects of any specific disease or class of diseases.

Course Objectives

1. Apply the basic terminology and definitions of epidemiology
2. Calculate basic epidemiologic measures of disease frequency and comparisons of disease risk between populations
3. Identify key sources of data for epidemiologic purposes
4. Draw appropriate inferences from epidemiologic data
5. Evaluate the strengths and limitations of epidemiologic reports
6. Apply basic infectious and chronic disease methods and data
7. Identify the principles and limitations of public health screening programs
8. Describe a public health problem in terms of magnitude, person, time, and place
9. Explain the importance of epidemiology for informing scientific, ethical, economic, and political discussion of health issues
10. Identify basic ethical and legal principles pertaining to the collection, maintenance, use, and dissemination of epidemiologic data
11. Communicate epidemiologic information to lay and professional audiences

Course Materials

REQUIRED TEXT: Essentials of Epidemiology, 2nd Edition by Ann Aschengrau, ScD, and George R. Seage III, DSc. Copyright 2008, ISBN: 0-7637-4025-X

Completion of the assigned readings from this text is mandatory. Lecture presentations will highlight, review, and expand upon the most important aspects of the assigned reading materials. Students are still responsible for mastering any content from the assigned readings, exercises, or discussion boards that is NOT covered in a lecture presentation. Exams will cover all course content covered in assigned readings, exercises, discussion boards, and lecture presentations.

OPTIONAL TEXTS: A list of additional optional resources is provided at the end of this syllabus. The focus of these optional resources ranges from basic/introductory, to intermediate, and finally to advanced descriptions of the concepts, methods, and application of epidemiology. You are not required to read any of these optional resources, but you may find them beneficial supplements to the required text and lectures, at least for some topics. For the most pertinent optional texts, I have provided a list of the chapters that roughly correspond to each week's lecture topic (see the table on the last page of this Syllabus).

Course Requirements/Evaluation/Grading**One (1) Syllabus Quiz – 10 points; 2% of the course grade**

At the start of the course you need to pass a syllabus quiz with a score of 10 points out of 10. This quiz may be retaken multiple times until you score 10 points. This quiz is worth 2% of your grade. At any time during the semester, corrections and/or addendums may be applied to the course syllabus at the discretion of the instructor. Any corrections/addendums to the syllabus will be promptly communicated to students via email and published on the course website and will take effect from the time of communication onward.

One (1) Sakai Quiz – 10 points; 2% of the course grade

At the start of the course you will view a video that will help you become familiar with the Sakai site for this course. You'll then take a quiz about the content of that video. You will need to pass that quiz with a score of 10 points out of 10. This quiz may be retaken multiple times until you score 10 points. This quiz is worth 2% of your grade.

Three (3) Exams – 100 points each (300 points total; 60% of the course grade)

There will be three exams, each worth 20% of your grade. The format for these exams is 40 multiple choice questions, and each question is worth 2.5 points. You will have two hours to complete the exam. Though the exams are not designed to be cumulative, material presented later in the course often builds upon topics presented earlier in the semester. See the section on [Exam Proctoring Service](#) below and the ProctorU link on the Sakai site for more information on computer requirements and registering for exams.

Ten (10) Student exercises – 10 points each (100 points total; 20% of the course grade)

There are 9 student exercises that will be completed as part of the course. Student exercises are not critically graded, but must be completed to earn 2% for each exercise. The instructor and TA's will determine whether an exercise has been completed sufficiently to earn credit. Students are welcome to work together on Exercises either through the Discussions section of the Sakai page or in-person, but your answers should be in your own words. Exercises are due on Sundays at 11:55 pm at the end of each week they are assigned. No make-ups of missed Exercises will be permitted.

Eight (8) Discussion Board Topics – 10 points each (80 points total; 16% of the course grade)

There are a total of 9 discussion boards available. Of these 9 discussion board topics, you are responsible for participating in 8. In general, discussion board answers will be from one to three paragraphs long and must address the question/topic that was presented. Discussion boards **are critically graded**, with each response worth up to 2% of your grade. To earn your 2% you must post your discussion board in the discussions section **AND** submit your discussion board through the assignments section. Discussion boards close for grading on Sundays at 11:55 pm at the end of each week. No make-ups of missed Discussion Boards will be permitted.

Note: Week 12 Exercise Requirement

For week 12 Exercise, you are expected to review an epidemiological article as though you are an editor of a journal and give your recommendations and critique. The article that you choose to review should be on a topic related to human health and have been published (early online or in print) in a scientific journal in the past year, *i.e.*, from January 1, 2014 to the present. In addition, the article that you choose to review must report an epidemiologic study or set of studies involving human subjects (a mix of animal and human subjects is permitted). Review articles or meta-analyses are not acceptable for this assignment. Papers on which the student participates as an author

will not be acceptable for this assignment. The instructor reserves the right to require a student to select a different paper or the right to select the paper for the student (only upon student request or under unusual circumstances). You will be required to submit the bibliographic reference for and a digital copy (Portable Document Format, or PDF, formatted file) of the manuscript that you select by 3/1 by 11:55PM. Below is the format of review:

| Review of Article | |
|--|---|
| Article Name: | |
| Reviewer Name: | |
| Recommendation: | Accept as is; Accept with Minor Revision; Accept with Major Revision; Reject |
| Review of Article (no longer than 1 page, single spaced): Beginning with Abstract and ending with Discussion, critically evaluate the methods, results and discussion; list the limitations of the article not addressed by the authors and your suggestions to overcome these limitations. | |

Exam Proctoring Service

The online MPH program will be using ProctorU for online proctoring services. This will be used by all students taking this course online, regardless of whether you are an on-campus student or not. You can access ProctorU at www.proctoru.com. Detailed guidelines for this proctoring system are available on your course website. Below is a short overview, please view the file online.

- Students are **REQUIRED** to have a microphone and webcam in place during the test-taking period.
- Students will **NOT** be allowed to take an exam without a webcam.
- 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.
- Exams will be administered 9:00AM – midnight (Eastern time), seven days a week – exams will **CLOSE** at the posted time in the course – do NOT schedule an exam appointment with ProctorU that will take you past this time, even if they allow it, i.e. do NOT sign up for an appointment at 11:00PM on the last day of the exam as the exam will close at 11:55PM and your exam time will only be 55 minutes versus the time allotted in the course for the exam.
- Exams scheduled for **AFTER** midnight (Eastern US time) will not have access to program assistance during your exam – it is highly recommended that you take your exams **ONLY** during the time of 9AM-midnight Eastern US time
- No one is allowed in the room with you while you take your exam, so be sure to make proper arrangements.

- The proctor will ask you for two forms of picture ID and may ask some public record questions to identify yourself
- Please plan on 1-hour beyond the test taking time for interfacing with ProctorU
- Proctoring fees are prepaid. For exams scheduled less than 3 days before an exam, they will charge you a \$5 late fee.

Grading

| Total Course Points (out of 500) | Percent of Course Points (out of 100%) | Letter Grade | Grade Point Equivalent |
|----------------------------------|--|--------------|------------------------|
| 465 – 500 | 93% - 100% | A | 4.00 |
| 450 – 464 | 90% - 92% | A- | 3.67 |
| 435 – 449 | 87% - 89% | B+ | 3.33 |
| 415 – 434 | 83% - 86% | B | 3.00 |
| 400 – 414 | 80% - 82% | B- | 2.67 |
| 385 – 399 | 77% - 79% | C+ | 2.33 |
| 365 – 384 | 73% - 76% | C | 2.00 |
| 350 – 364 | 70% - 72% | C- | 1.67 |
| 335 – 349 | 67% - 69% | D+ | 1.33 |
| 315 – 334 | 63% - 66% | D | 1.00 |
| 300 – 314 | 60% - 62% | D- | 0.67 |
| Less than 300 | Below 60% | E | 0.00 |

Exam Review Sessions: I will be hosting a set of three (3) review sessions before each of the three exams given as part of this course. Participation in these review sessions is optional. Each of these group discussion sessions will be facilitated via Adobe Connect, and will be held on each of the Monday, Tuesday, and Wednesday evenings at 6:30 - 7:30 PM EDT before each Exam, as listed below. To help ensure that as many students as possible can join us, each discussion session will be audio only. Each session will take the form of an open forum for students to ask questions. Since this is the first time that I am using this online format to facilitate pre-exam student question and answer sessions, I may make some changes to the whole process related to these sessions as the semester proceeds (for example, by adding additional sessions), with the aim of ensuring that you, the student, have the best and most efficient access possible to having your questions answered. Finally, the existence of these sessions should not keep you contacting me or a TA directly with any questions. We are always available to help facilitate your learning experience.

Planned Schedule for Online Exam Review Sessions:

Exam 1: Open 2/5 – 2/8

Session 1.1: 2/2 from 6:30-7:30 PM EDT

Session 1.2: 2/3 from 6:30-7:30 PM EDT

Session 1.3: 2/4 from 6:30-7:30 PM EDT

Exam 2: Open 3/19 – 3/22

Session 2.1: 3/16 from 6:30-7:30 PM EDT

Session 2.2: 3/17 from 6:30-7:30 PM EDT

Session 2.3: 3/18 from 6:30-7:30 PM EDT

Exam 3: Open 4/23 – 4/26

Session 3.1: 4/20 from 6:30-7:30 PM EDT

Session 3.2: 4/21 from 6:30-7:30 PM EDT

Session 3.3: 4/22 from 6:30-7:30 PM EDT

Student Meeting Tool

The 'Meeting' tool provides students with the means to set up student-to-student discussion sessions via online audio and/or video connections, such as experienced via Skype or FaceTime. Please see the following resources for a discussion of how to create and conduct a meeting using this tool. eLearning Help documentation also uses the term the 'Big Blue Button' in reference to this tool.

Late Policies

Syllabus and Sakai Quizzes: No late quizzes permitted.

Exams: In general, taking an exam after the official closing time will only be permitted under extenuating circumstances. Late exams will only be permitted at the discretion of the instructor (advanced notice in writing required and per applicable University of Florida policies). Failing to schedule an exam time with ProctorU will not be considered a valid reason for requesting to take an exam late. At his/her discretion and in consultation with ProctorU representatives, the UF Director of Public Health Professional Education Programs may permit an extension of an exam that has already begun.

Student Exercises and Discussion Boards Topics: Submission of student exercises after the due time/date is not permitted, except at the discretion of the instructor (advanced notice in writing is required and per applicable University of Florida policies). A submission will not be considered complete until it is submitted through **BOTH** the Discussion Section **AND** the Assignment Section of the course website.

Course Outline

| Week | Dates | Topic(s) | Assigned Reading | Homework |
|------|-------------|---|--|--|
| 1 | 1/5 -1/11 | <ul style="list-style-type: none"> Syllabus and Course Intro Introduction to Epidemiology | <ul style="list-style-type: none"> Course syllabus (on Sakai site) Ashengrau and Seage, Chapter 1, pages 1-32 | NONE <ul style="list-style-type: none"> Sakai Quiz Syllabus Quiz |
| 2 | 1/12 – 1/18 | <ul style="list-style-type: none"> Measures of Disease Frequency | <ul style="list-style-type: none"> Ashengrau and Seage, Chapter 2, pages 33-57 | <ul style="list-style-type: none"> Week 2 Exercise - due 1/18 by 11:55PM |
| 3 | 1/19 – 1/25 | <ul style="list-style-type: none"> Comparing Disease Frequencies | <ul style="list-style-type: none"> Ashengrau and Seage, Chapter 3, pages 59-76 | <ul style="list-style-type: none"> Week 3 Exercise – due Jan 25 by 11:55PM) Week 3 Discussion Board - due 1/25 by 11:55PM |
| 4 | 1/26 – 2/1 | <ul style="list-style-type: none"> Sources of Public Health Data Descriptive Epidemiology | <ul style="list-style-type: none"> Ashengrau and Seagle, Chapter 4, pages 77-98 Ashengrau and Seage, Chapter 5, pages 99-137 | <ul style="list-style-type: none"> Week 4 Exercise – due 2/1 by 11:55PM |
| 5 | 2/2 – 2/8 | Exam 1 - Covers Chapters 1 through 5 (Open 2/5 through 2/8 during ProctorU business hours) No lectures, exercises or discussion boards this week | | |
| 6 | 2/9 – 2/15 | <ul style="list-style-type: none"> Overview of Epidemiologic Study Designs Experimental Studies Randomized Trials | <ul style="list-style-type: none"> Ashengrau and Seage, Chapter 6, pages 139-167 Ashengrau and Seage, Chapter 7, pages 169-199 | <ul style="list-style-type: none"> Week 6 Exercise – due 2/15 by 11:55PM Week 6 Discussion Board - due 2/15 by 11:55PM |
| 7 | 2/16 – 2/22 | <ul style="list-style-type: none"> Cohort Studies | <ul style="list-style-type: none"> Ashengrau and Seage, Chapter 8, pages 201-228 | <ul style="list-style-type: none"> Week 7 Exercise - due 2/22 by 11:55PM Week 7 Discussion Board - due 2/22 by 11:55PM |
| 8 | 2/23 – 3/1 | <ul style="list-style-type: none"> Case Control Studies | <ul style="list-style-type: none"> Ashengrau and Seage, Chapter 9, pages 229-260 | <ul style="list-style-type: none"> Week 8 Exercise –due 3/1 by 11:55PM Week 8 Discussion Board - due 3/1 by 11:55PM Submit a copy of the article that you will be reviewing for the Week 12 Exercise - due 3/1 by 11:55PM |
| 9 | 3/2 – 3/8 | <ul style="list-style-type: none"> Spring Break Vacation No lectures, exercises or discussion boards | | |

| Week | Dates | Topic(s) | Assigned Reading | Homework |
|------|-------------|---|--|--|
| 10 | 3/9 – 3/15 | <ul style="list-style-type: none"> Bias Confounding | <ul style="list-style-type: none"> Ashengrau and Seage, Chapter 10, pages 261-286 Ashengrau and Seage, Chapter 11, pages 287-305 | <ul style="list-style-type: none"> Week 10 Exercise – due 3/15 by 11:55PM Week 10 Discussion Board - due 3/15 by 11:55PM |
| 11 | 3/16 – 3/22 | Exam 2 – Covers Chapters 6 through 11 (Open 3/19 through 3/22 during Proctor business hours) No lectures, exercises or discussion boards this week | | |
| 12 | 3/23 – 3/29 | <ul style="list-style-type: none"> Critical Review of Epidemiologic Studies | <ul style="list-style-type: none"> Ashengrau and Seage, Chapter 14, pages 357-382 | <ul style="list-style-type: none"> Week 12 Exercise – due 3/29 by 11:55PM Week 12 Discussion Board - due 3/29 by 11:55PM |
| 13 | 3/30 – 4/5 | <ul style="list-style-type: none"> The Epidemiologic Approach to Causation | <ul style="list-style-type: none"> Ashengrau and Seage, Chapter 15, pages 383-409 | <ul style="list-style-type: none"> Week 13 Exercise – due 4/5 by 11:55PM Week 13 Discussion Board - due 4/5 by 11:55PM |
| 14 | 4/6 – 4/12 | <ul style="list-style-type: none"> Screening in Public Health Practice | <ul style="list-style-type: none"> Ashengrau and Seage, Chapter 16, pages 411-440 | <ul style="list-style-type: none"> Week 14 Exercise – due 4/12 by 11:55PM Week 14 Discussion Board – due 4/12 by 11:55PM |
| 15 | 4/13 – 4/19 | <ul style="list-style-type: none"> Ethics in Research Involving Human Participants | <ul style="list-style-type: none"> Ashengrau and Seage, Chapter 17, pages 441-458 | <ul style="list-style-type: none"> Week 15 Discussion Board – due 4/19 by 11:55PM |
| 16 | 4/20 – 4/22 | Exam 3 – Covers Chapters 14 through 17 (Open 4/23 through 4/26 during ProctorU business hours) No lectures, exercises or discussion boards this week | | |

Academic Integrity

Students are expected to act in accordance with the University of Florida policy on academic integrity (see Student Conduct Code, the Graduate Student Handbook or this web site for more details:

www.dso.ufl.edu/judicial/procedures/academicguide.php).

Cheating, lying, misrepresentation, or plagiarism in any form is unacceptable and inexcusable behavior.

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

Accommodations for Students with Disabilities

The College and the course instructor are committed to providing reasonable accommodations to assist students' coursework. To obtain academic accommodations, first register with the Dean of Students' Office. The Dean of Students' Office will provide documentation to be given to the course instructor at the time you request the accommodation.

Online Participation

Professional and respectful behavior is expected of all students participating in this online course. Please be aware that all assignments and homework are due on the specified date and time. Late submissions are almost universally not accepted. High speed internet and a web cam are essential for this online course and ensuring internet connectivity and bandwidth is your responsibility. Late submissions and inability to participate in discussion boards or inability to take exams due to poor internet connectivity is not accepted. Therefore, please refrain from waiting until the due date to submit your assignments or taking exams as it will be difficult for us to accommodate your requests because of technical problems from your side.

Counseling and Student Health

Students may occasionally have personal issues that arise in the course of pursuing higher education or that may interfere with their academic performance. If you find yourself facing problems affecting your coursework, you are encouraged to talk with an instructor and to seek confidential assistance at the University of Florida Counseling Center, 352-392-1575, or Student Mental Health Services, 352-392-1171. Visit their web sites for more information: <http://www.counsel.ufl.edu/> or <http://www.health.ufl.edu/shcc/smhs/index.htm#urgent>

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, including primary care, women's health care, immunizations, mental health care, and pharmacy 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: www.health.ufl.edu/shcc

Crisis intervention is always available 24/7 from:
Alachua County Crisis Center: (352) 264-6789

BUT – 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.

Optional Reading List

| Week | Lecture Topic(s) | <i>Epidemiology by Gordis</i> | <i>Epidemiologic Methods by Koepsell and Weiss</i> | <i>Modern Epidemiology by Rothman, Greenland, and Lash</i> |
|------|--|-------------------------------|--|--|
| 1 | <ul style="list-style-type: none"> Syllabus and Course Intro Introduction to Epidemiology | Chapters 1 and 2 | Chapters 1 and 7 | |
| 2 | <ul style="list-style-type: none"> Measures of Disease Frequency | Chapter 3 | Chapters 2 and 3 | Chapter 3 |
| 3 | <ul style="list-style-type: none"> Comparing Disease Frequencies | Chapters 10 and 11 | Chapters 8 and 9 | Chapter 4 |
| 4 | <ul style="list-style-type: none"> Sources of Public Health Data Descriptive Epidemiology | | Chapter 6 | |
| 6 | <ul style="list-style-type: none"> Overview of Epidemiologic Study Designs Experimental Studies Randomized Trials | Chapters 6 and 7 | Chapter 13 | Chapter 6 |
| 7 | <ul style="list-style-type: none"> Cohort Studies | Chapter 8 | Chapter 14 | Chapter 7 |
| 8 | <ul style="list-style-type: none"> Case Control Studies | Chapter 9 | Chapter 15 | Chapter 8 |
| 10 | <ul style="list-style-type: none"> Bias Confounding | Chapter 14 | Chapter 11 | Chapter 9 |
| 12 | <ul style="list-style-type: none"> Critical Review of Epidemiologic Studies | | | |
| 13 | <ul style="list-style-type: none"> The Epidemiologic Approach to Causation | Chapter 13 | Chapter 8 | Chapters 1 and 12 |
| 14 | <ul style="list-style-type: none"> Screening in Public Health Practice | Chapter 4 | Chapter 18 | |
| 15 | <ul style="list-style-type: none"> Ethics in Research Involving Human Participants | | | |

References for Optional Resources

Basic/Introductory Resources

1. Gordis, Leon. *Epidemiology*. 2nd Edition. W.B. Saunders Company, Philadelphia, PA. 2000.
2. Keyes, Katherine M. and Galea, Sandro. *Epidemiology Matters: A New Introduction to Methodological Foundations*. 1st Edition. Oxford University Press, New York, NY. 2014.

Intermediate Resources

1. Koepsell, Thomas and Weiss, Noel. *Epidemiologic Methods*. 1st Edition. Oxford University Press, New York, NY. 2003.
2. Szklo, Moyses and Nieto, F. Javier. *Epidemiology: Beyond the Basics*. 1st Edition. Aspen Publication, Gaithersburg, MD. 2000.

Advanced Resources

1. Rothman, Kenneth J.; Greenland, Sander; and Lash, Timothy L. *Modern Epidemiology*. 3rd Edition. Wolters Kluwer Health/Lippincott Williams & Wilkins. New York, NY. 2012.