

**PubH 6320-Online
Fundamentals of Epidemiology
Spring 2009**

Credits:	3
Meeting Days:	Online at http://vista.umn.edu
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I. Course Description***Welcome to Fundamentals of Epidemiology Online!***

“Fundamentals” is an introductory course designed to provide graduate students who are not majoring in epidemiology with an understanding of the basic methods and tools used by epidemiologists to study the health of populations. We will cover all the same topics as the course taken by epidemiology majors (PubH 6330), but in somewhat less depth.

PubH 6320 is a required course for obtaining an MPH in the School of Public Health. Although you may not want to become an epidemiologist, we hope that by the end of this course, you will have developed an excitement for the subject and an appreciation for the relevance of epidemiology to your own discipline and to everyday life.

Epidemiology Is Not a Black-and-White Discipline

In epidemiology there is not always a right answer or only one approach to a research question. Sometimes, we must choose among various alternatives the one that would seem to be most appropriate for the problem posed. Sometimes we choose the best answer, given the alternatives, although it is not necessarily the only answer. This makes epidemiology a difficult subject to teach and to learn. Because epidemiology is immersed in the gray areas of human health, it is possible that you may pose a question, which we are unable to answer immediately, or if we answer it, we may change our mind upon further reflection. We also expect that some of you will come up with answers that had not occurred to us. We welcome such an exchange of ideas and look forward to learning from you.

Access to the website

We will notify you of your access to the course through your University of MN X500 email account. You will access the course through your University of MN student Internet account. **Note: Please be sure you complete the orientation to online learning tutorial.**

II. Course Prerequisites

AHC or health journalism student or instructor consent

You need basic math skills to perform simple calculations of disease rates and risks. If you want to refresh your math skills, please visit: <http://cpheo.sph.umn.edu/cpheo/courses/math.html>

III. Course Goals and Objectives

Learning objectives are listed at the beginning of each lesson. Use these as a guide as you work through the lessons.

Remember: THERE IS A MINIMUM AMOUNT OF KNOWLEDGE REQUIRED FOR PASSING THIS COURSE, BUT THERE IS NO MAXIMUM. We would be happy to suggest additional materials for any students. Also see the course website for supplemental reading materials.

IV. Methods of Instruction and Work Expectations

The course consists of 14 online lessons, a textbook, a workbook with practice problems, and a number of online resources, including readings, resource links, and Shockwave Flash motion-graphic modules.

- **This course is NOT offered as an independent study course in which you can go-at-your-own pace. Please see the calendar (below) for the class schedule and a listing of due dates.**
- **Also, unless otherwise notified, please do not work too far ahead in the material because we will be modifying and updating lessons occurring later in the course.**

Feedback Welcomed:

We've done our best to make the online course as complete and accurate as possible, but it is constantly under development as we add function or content. If you notice inconsistencies or misspellings, if you have trouble accessing anything, or if you'd simply like to propose improvements, please let us know or contact the Distance Education Coordinator, Jim Harpole by phone: 612-626-5069 or email: harpo002@umn.edu

Communication

We will use pop-up announcements, the discussion board, and University of MN X500 email to communicate important information to you. Please check for our messages throughout the semester.

→ Note: We will **NOT** use the WebVista email tool.

Course Expectations

- Our expectations and requirements in this course are no different than the expectations and requirements in a typical lecture course, so you will need to properly pace yourself through this course according to the scheduled due dates for assignments, labs, quizzes and the final exam.
- Students must have World Wide Web and e-mail knowledge as a prerequisite; you will be required to use those skills to complete and submit assignments and quizzes via WebVista and/or as requested by the teaching team.
- We expect you to post your questions on the discussion board. We want to have group discussions and to have other students answer these questions whenever possible. The TAs and instructor will monitor the discussion boards and will join in where necessary.

Workload and Due Dates

It is estimated, based on the credit load and student experience that this class requires about 13 hours a week during the semester.

- All due dates are posted on the syllabus and the WebVista calendar. **If you anticipate having difficulty meeting any deadline(s), you must make prior arrangements with your TA to be eligible for receiving full credit on your work** (i.e., labs, assignments, quizzes, final exam). Students with disabilities are also encouraged to contact Disability Services to have a confidential discussion of their individual needs for accommodations (see below).

- Our flexibility with due dates: We want students to be successful in learning the course material; therefore, we try to be flexible about quiz and lab due dates, but it is not always possible to consider every student's individual personal issues or honor every request. Just as we would in any class, we will always try to accommodate individuals with documented disabilities, illnesses, and family emergencies.
- Anyone working full-time is discouraged from taking more than one online course and everyone is discouraged from taking too many online classes at one time.

Strategies for Taking an Online Course in Epidemiology

- You may need several passes through the material to learn online. The lesson modules online will be most helpful to you if you have read the assigned materials. In that way, the lecture material will have an air of familiarity about it.
- You are encouraged to form study groups and communicate with your study partners during the course to exchange ideas and get help with lab assignments, practice problems, homework assignments. You can access student email addresses by clicking on class emails in the WebVista course menu. Students are also free to share helpful comments with the class as a whole using the class discussion board.
- Also feel free to email to ask questions of the TA or instructor. We try to respond to your emails and posted questions on the discussion board within 24 hours of the time we receive/read your message. If you're in the Twin Cities, we also encourage you to avail yourself of in-person office hours. Simply call or email for an appointment.
- **Ground Rule: In your e-mail communications, please remember to use the same etiquette that you would use in face-to-face conversations with both fellow students and instructional staff.**

Do Not Panic: Human Beings Teach This Course and WebVista offers Technical Support

- Please remember there are people behind this course. We understand that there can be technical problems or computer "glitches". If you experience a technical problem, DO NOT PANIC. These types of problems can be solved and we can make allowances for such problems.
- So if you are in the middle of a quiz at 11:59 pm on a Saturday night and the website shuts down and you try to get back in and can't and the deadline for the quiz is at 12:01 am Monday. DO NOT PANIC. There is no need to call every employee that you can reach on Sunday in the Epidemiology Division in hope of finding someone to solve your problem. We will help you on Monday morning. We will understand that you had a problem, and we can give you a break.
- Other helpful tips:
 - For content-related problems such as broken links, content or tables not available: post a note in the "Bugs!" folder of the discussion board or contact the class TAs or instructor.
 - For WebVista-related technical problems, contact: webvista@umn.edu. They respond to questions and concerns within 24 hours. Additional support for WebVista can be found at: <http://webct.umn.edu/students/>
 - For all other computer- and software-related problems, contact the Help Line at 612-301-4357, <http://1help.umn.edu>.

V. Course Text and Readings

Required Texts

The required text book is: ***Essentials of Epidemiology in Public Health, 2nd Edition***, by Ann Aschengrau and George R. Seage II, published by Jones and Bartlett, Copyright 2008 (ISBN 13 978-0-7637-4026-2).

The textbook is available at the Health Sciences Bookstore on the Minneapolis campus or via online services such as Barnes and Noble (<http://www.bn.com>) and Amazon (<http://www.amazon.com>). Be sure to check for the best prices, as sometimes these services and others will offer the book used.

Supplemental Texts & Articles

There is no one perfect text for teaching epidemiology so we strongly urge you to read other material as well. Don't reread something five times in one book if it is not clear. Find another source to read. It may explain a topic in another way that is just what you need to hear. Also, no one text satisfies everyone. If you find other materials that cover the required topics for this course that you like better than the suggested materials, go ahead and use them. On the website we have listed supplemental texts (available from the library) and articles (available as links on the class website) that you might find useful.

VI. Course Outline/Weekly Schedule

Week	Lesson	Due Dates/Times (Central Standard time)	Readings are from Aschengrau unless otherwise indicated
1 1/18 – 1/24	Math Review – access on Home Page	1/20 – 1/21	
	Lesson 1: Orientation and Scope of Epidemiology	1/20 – 1/21	Chapter 1
	Lesson 2: Causality	1/22 – 1/26	Chapter 15
2 1/25 – 1/31	Lesson 2: Causality (continued)	1/22 – 1/26	Chapter 15
	Post Bio on Discussion Board	1/26 at 11:59 p.m.	
	Lab 2	1/26 at 11:59 p.m.	
	Lesson 3: Measures of Disease Occurrence: Counts and Proportions	1/27 – 1/31	Chapter 2 Supplemental: Hennekens pp. 54-66.
3 2/1 – 2/7	Lesson 4: Measures of Disease Occurrence: Rates	2/1 – 2/6	Chapter 2 Supplemental: Hennekens pp. 54-66
	Lab 3	2/7 at 11:59 p.m.	
4 2/8 – 2/14	Lesson 5: Descriptive Epidemiology	2/8 – 2/12	Chapter 5
	Lab 5	2/13 at 11:59 p.m.	
	Review for Quiz 1	2/13	
	Quiz 1: Available 2/14 – 2/17	2/17 at 11:59 p.m.	Covers: Lessons 1-5
5 2/15 – 2/21	Quiz 1: Available 2/14 – 2/17 (continued)	2/17 at 11:59 p.m.	Covers: Lessons 1-5
	Lesson 6: Rate Standardization	2/18 – 2/22	Chapter 3 pp. 69-73
6 2/22 – 2/28	Lesson 6: Rate Standardization (continued)	2/18 – 2/22	Chapter 3 pp. 69-73
	Lab 6	2/23 at 11:59 p.m.	
	Lesson 7: Excess Risk	2/24 – 3/1	Chapter 3 Supplemental: Hennekens pp. 73-82, 87-96, 243-246, 252-258
7 3/1 – 3/7	Lesson 7: Excess Risk (continued)	2/24 – 3/1	Chapter 3 Supplemental: Hennekens pp. 73-82, 87-96, 243-246, 252-258
	Lab 7	3/2 at 11:59 p.m.	
	Lesson 8: Study Design	3/3 – 3/5	Chapter 6
	Group Work: Lab 8	3/6 – 3/9	Instructions forthcoming
8 3/8 – 3/14	Group Work: Lab 8 (continued)	3/6 – 3/9	
	Lab 8	3/10 at 11:59 p.m.	
	Review for Quiz 2	3/10	
	Quiz 2: Available 3/11 – 3/14	3/14 at 11:59 p.m.	Covers: Lessons 6-8
Spring Break: 3/15 – 3/21			
9 3/22 – 3/28	Lesson 9: Intervention Studies	3/22 – 3/26	Chapter 7 Supplemental: Hennekens Chapter 8
	Lab 9	3/27 at 11:59 p.m.	

	Register Your Partner	3/28 at 11:59 p.m.	
	Lesson 10: Cohort Studies	3/28 – 4/1	Chapter 8 Supplemental: Hennekins Chapter 7
10 3/29 – 4/4	Lesson 10: Cohort Studies (continued)	3/28 – 4/1	Chapter 8 Supplemental: Hennekins Chapter 7
	Lab 10	4/2 at 11:59 p.m.	
	Lesson 11: Case Control Studies	4/3 – 4/7	Chapter 9 Supplemental: Hennekins Chapter 6
11 4/5 – 4/11	Lesson 11: Case Control Studies (continued)	4/3 – 4/7	Chapter 9 Supplemental: Hennekins Chapter 6
	Lab 11	4/8 at 11:59 p.m.	
	Lesson 12: Infectious Diseases	4/9 – 4/13	Friis and Sellers, Chapter 12 pp. 437-482
12 4/12 – 4/18	Lesson 12: Infectious Diseases (continued)	4/9– 4/13	Friis and Sellers, Chapter 12 pp. 437-482
	Lab 12	4/14 at 11:59 p.m.	
	Catch-up day	4/15	
	Review for Quiz 3	4/16	
	Quiz 3: Available 4/17 – 4/20	4/20 at 11:59 p.m.	Covers: Lessons 8-11
13 4/19 – 4/25	Quiz 3: Available 4/18 – 4/20 (continued)	4/20 at 11:59 p.m.	Covers: Lessons 8-11
	Lesson 13: Screening	4/21 - 4/26	Chapter 16
14 4/26 – 5/2	Lesson 13: Screening (continued)	4/21 - 4/26	Chapter 16
	Catch-up day	4/27	
	Partners trade proposals	4/28 at 11:59 p.m.	
	Give your completed critique to partner & submit to WebVista for grading	5/1 at 11:59 p.m.	
	Lesson 14: Error/Bias/Confounding	4/29 - 5/6	Chapter 10, Chapter 11
15 5/3 – 5/9	Lesson 14: Error/Bias/Confounding (continued)	4/29 – 5/6	Chapter 10, Chapter 11
	Final Project	5/7 at 11:59 p.m.	
	Lab 14	5/8 at 11:59 p.m.	
	Last day of instruction	5/8	
	Lesson 15: Prepare for Final Exam	5/9 – 5/12	
Finals Week 5/10 – 5/16	Lesson 15: Prepare for Final Exam	5/9 – 5/12	
	Final Exams: Available 5/12 – 5/16	5/16 at 11:59 p.m.	Part A Covers : Lessons 12-14 Part B Covers: Comprehensive

VII. Evaluation and Grading

The teaching team will use a variety of WebVista tools to assess your progress through the course materials, including reports on the frequency and duration of your access to the lessons; your use of the assignment tool, discussion board, and other course components; and the start times and duration you need to complete online assessments or quizzes.

Grades will be based on participation in class, completion of lab exercises, assignments, and WebVista exam scores. Extra credit problem sets and/or quizzes may also be offered. We plan to give three quizzes, a final exam (online), plus a final project and critique of another student's project.

- Participation in class will be evaluated based on your participation on the discussion board. Please watch for postings on the board with more information and instructions on participation activities.

- Each individual lab contributes approximately 0.91 percentage points (i.e., 10 percentage points/11 labs = 0.909) toward your final score for the class. The labs provide students with practice problems and often offer applications beyond what's seen in the lessons. They are meant to be a learning experience, so thoughtful but incorrect answers are acceptable. Working together on labs is acceptable and even encouraged.
- Labs will be graded based on completeness, and whether the work was submitted by the due date deadline:
 - **Completeness:** Full credit will be given if at least 90% of the answers were thoughtfully completed. If the lab is deemed incomplete or if it is clear that a student has put no thought into their answers, the lab will be penalized by 20%.
 - **Late work/No work:** Late work will be penalized 20%, unless prior arrangements were made to submit your work at a later date. Any work that is not submitted by the last day of class will receive a 0% score.

The table below summarizes the grading rubric for the labs. The percentage in the last column, labeled 'Multiplier#', when multiplied by 0.91 (the total number of percentage points for each lab) computes the number of percentage points earned on a particular lab. **Example:** If you submitted your work late without making prior arrangements, and your work was deemed complete, you would receive $80\% * 0.91 = 0.728$ percentage points for that lab.

Submitted Lab (Y/N)	Met Deadline* (Y/N)	Completed** (Y/N)	Multiplier#
Yes	Yes	Yes	100%
Yes	Yes	No	80%
Yes	No	Yes	80%
Yes	No	No	40%
No	NA	NA	0%

* Deadline from weekly calendar or established by special arrangement.

** 90% of the lab answers must be thoughtfully completed.

Multiply this value by 0.91 to compute the number of percentage points earned for a particular lab.

Note: See the 'Grading Criteria' section below for how the total number of percentage points earned during the semester maps into a final letter grade.

- Detailed instructions and grading for the final project and critique will be available on the class website. Please watch the WebVista Home Page for more information. Note that late projects and critiques will be penalized by 20% unless prior arrangements have been made with the TAs or the instructor.
- The quizzes and a comprehensive final will be available to you in the WebVista site for a limited period of time. Check the times and dates under "Availability." We recommend that you have paper, pencil, and a calculator handy before you sign on. Quizzes are timed: you will have about 1 hour to finish the questions in each quiz, but you can choose your hour within a multi-day period that the quiz remains available to the class. Please also note these important points regarding quizzes and the final:
 - **We will provide make-up quizzes and incompletes for documented family emergencies, illness, and other extraordinary circumstances, or by prior arrangement for work conflicts, etc. If prior arrangements were not made for schedule conflicts AND the student is allowed to make up the quiz, we reserved the right to apply a late penalty equal to 25% of the total possible points for the quiz.**
 - **Students are solely responsible for correctly entering their answers into the assessment (exam) tool. Allowances for students' entry errors are not automatic and will be made at the discretion of the teaching team.**
 - **ALL EXAMS ARE TO BE TAKEN INDEPENDENTLY. No collaboration or sharing with classmates is allowed; you should conduct yourself as you would for a proctored, in-class exam. As mentioned previously, the teaching team may monitor your performance on quizzes to ensure independent work.**
- Extra credit problem sets and/or quizzes, **if offered**, will contribute no more than 5% to the final grade for those who complete them. These 'extras' will be graded for accuracy by the instructor, unless otherwise

indicated. Please also note that these 'extras' will be due on a specified date and no late work will be accepted under any circumstances.

- Assignments and quizzes will contribute to your grade (in terms of points) as follows:

Activity	Percent Grade
Participation in class	10
Labs	10
Quiz 1	10
Quiz 2	10
Quiz 3	10
Final Critique	10
Final Project	10
Final Exam – Part A	10
Final Exam – Part B	20

Grading Criteria: A/F or S/N

PubH 6320 is part of the public health core requirement; therefore, if you are enrolled in a University of Minnesota, School of Public Health (SPH) Master's of Public Health (MPH) program, you must take this course for a letter grade (A-F). MPH students are required to achieve no less than a B- grade in public health core courses. If you plan to enroll in a MPH program at the University in the future, you should consider the letter grade option. Non-SPH students may take this course for a grade (A-F) or on a pass/fail basis (S/N). To pass this course, students must achieve a performance equivalent to a C- (70%). If you have questions about grading options, please check with your department and/or academic advisor, or the course instructor.

- **A/F letter grade** will be determined by total effort as follows (see next page):

A = 92.5 – 100%	(4.0) Represents achievement that is outstanding relative to the level necessary to meet course requirements.
A- = 90.0 – 92.4%	
B+ = 87.5 – 89.9%	
B = 82.5 – 87.4%	(3.0) Represents achievement that is significantly above the level necessary to meet course requirements.
B- = 80.0 – 82.4%	Minimum passing grade for the University of Minnesota, School of Public Health (SPH) Master's of Public Health (MPH) program,
C+ = 77.5 – 79.9%	
C = 72.5-77.4%	(2.0) Represents achievement that meets the minimum course requirements.
C- = 70.0 – 72.4%	
D+ = 67.5 – 69.9%	
D = 62.5 – 67.4%	
D- = 60.0 – 62.4%	
F = <60%	Represents failure (or no credit) and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an I.

- **S/N** option total effort must achieve a C- level (70%):

S	Achievement that is satisfactory will be expected to complete all assignments and receive a minimum of 70% to receive a passing score (achievement required for an S is at the discretion of the instructor but may be no lower than a 70%).
F (or N)	Represents failure (or no credit) and signifies that the work was either (1) completed but at a level of achievement that is not worthy of credit or (2) was not completed and there was no agreement between the instructor and the student that the student would be awarded an I.

Grading Option -Students may change grading options during the initial registration period or during the first two weeks of the semester. **The grading option may not be changed after the second week of the term.**

Course Evaluation

Beginning in fall 2008 the SPH will collect student course evaluation electronically using a software system called CourseEval. The system will send email notifications to students when they can access and complete their course evaluations. Students who complete their course evaluations promptly will be able to access their final grades just as soon the faculty member renders the grade. All students will have access to their final grades two weeks after the last day of the semester regardless of whether they completed their course evaluation or not. Student feedback on course content and faculty teaching skills are important means for improving our work. Please take the time to complete a course evaluation for each of the courses for which you are registered.

VIII. Other Course Information and Policies

Grade Option Change (if applicable)

For full-semester courses, students may change their grad option, if applicable, through the second week of the semester. Grade option change deadlines for other terms (i.e. summer and half-semester) can be found at onestop.umn.edu.

Course Withdrawal

Students should refer to the Refund and Drop/Add Deadlines for the particular term at onestop.umn.edu for information and deadlines for withdrawing from a course. As a courtesy, students should notify their instructor and, if applicable, advisor of their intent to withdraw.

Students wishing to withdraw from a course after the noted final deadline for a particular term must contact the School of Public Health Student Services Center at sph-ssc@umn.edu for further information.

Incomplete Contracts

A grade of incomplete "I" shall be assigned at the discretion of the instructor when, due to extraordinary circumstances (e.g., documented illness or hospitalization, death in family, etc.), the student was prevented from completing the work of the course on time. The assignment of an "I" requires that a contract be initiated and completed by the student before the last day of class, and signed by both the student and instructor. If an incomplete is deemed appropriate by the instructor, the student in consultation with the instructor, will specify the time and manner in which the student will complete course requirements. Extension for completion of the work will not exceed one year (or earlier if designated by the student's college). For more information and to initiate an incomplete contract, students should go to: www.sph.umn.edu/grades.

University of Minnesota Uniform Grading and Transcript Policy

A link to the policy can be found at onestop.umn.edu.

Student Conduct, Scholastic Dishonesty and Sexual Harassment Policies

Students are responsible for knowing the University of Minnesota, Board of Regents' policy on Student Conduct and Sexual Harassment found at www.umn.edu/regents/polindex.html.

Students are responsible for maintaining scholastic honesty in their work at all times. Students engaged in scholastic dishonesty will be penalized, and offenses will be reported to the Office of Student Academic Integrity (OSAI, www.osai.umn.edu).

The University's Student Conduct Code defines scholastic dishonesty as "plagiarizing; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; or altering, forging, or misusing a University academic record; or fabricating or falsifying of data, research procedures, or data analysis."

Plagiarism is an important element of this policy. It is defined as the presentation of another's writing or ideas as your own. Serious, intentional plagiarism will result in a grade of "F" or "N" for the entire course. For more information on this policy and for a helpful discussion of preventing plagiarism, please consult University policies and procedures regarding academic integrity: <http://writing.umn.edu/tww/plagiarism/>.

Students are urged to be careful that they properly attribute and cite others' work in their own writing. For guidelines for correctly citing sources, go to <http://tutorial.lib.umn.edu/> and click on "Citing Sources".

In addition, original work is expected in this course. It is unacceptable to hand in assignments for this course for which you receive credit in another course unless by prior agreement with the instructor. Building on a line of work begun in another course or leading to a thesis, dissertation, or final project is acceptable.

If you have any questions, consult the instructor.

Disability Statement

It is University policy to provide, on a flexible and individualized basis, reasonable accommodations to students who have a documented disability (e.g., physical, learning, psychiatric, vision, hearing, or systemic) that may affect their ability to participate in course activities or to meet course requirements. Students with disabilities are encouraged to contact Disability Services to have a confidential discussion of their individual needs for accommodations. Disability Services is located in Suite 180 McNamara Alumni Center, 200 Oak Street. Staff can be reached by calling 612/626-1333 (voice or TTY).