

EPID 600

Principles of Epidemiology for Public Health

Department of Epidemiology, UNC Gillings School of Global Public Health

Preliminary Fall 2015 Syllabus, Sections 971 and 01W (Internet, 3 credit hours)

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(Email addresses and office hours are in Sakai)

Course Overview

Public health practitioners and researchers, regardless of their discipline or specialty, rely on the results of epidemiologic research and often employ epidemiologic concepts, methods, and perspectives. Clinicians providing evidence-based health care do as well. EPID600 presents a general introduction to the approach, concepts, methods, and perspectives of epidemiology for students and practitioners in a broad range of public health and related disciplines. EPID600 employs problem-based learning where you apply the epidemiologic approach to a variety of current public health questions. Through EPID600 you will improve your ability to think analytically and to understand and interpret population-based and clinical research.

Learning Objectives and ASPH Competencies

The course is designed to assist students in achieving the core Masters of Public Health (MPH) Epidemiology competencies developed by the Association of Schools of Public Health (ASPH) (see <http://masterpublichealth.com/epidemiology/>). After completing the course, students should be able to:

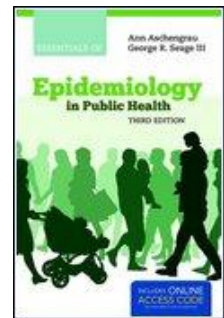
- Explain the population perspective, access key sources of demographic and public health data for countries around the world, and describe the magnitude, population distribution, and time trends of public health problems in the U.S. and internationally.
- Discuss, apply, and interpret basic epidemiologic concepts and measures of disease occurrence in populations: incidence, prevalence, relative risk, attributable risk, standardization.
- Use basic methods for investigating an outbreak of a health problem in a community, making use of the concepts of disease variation in time, person and place.

- Explain the relative strengths and limitations of epidemiological strategies (e.g., cohort, case-control, cross-sectional, ecological and intervention studies) for studying associations between risk factors or exposures in populations and rates of disease occurrence or death.
- Identify the major sources of random and non-random error in community and multinational health studies and suggest strategies to reduce error.
- Evaluate epidemiologic evidence by applying criteria for causal inference to information about an association between a population exposure and health outcome.
- Use epidemiologic methods in evaluating effectiveness of public health intervention programs in varying geopolitical contexts.
- Comprehend basic ethical and legal principles pertaining to the collection, maintenance, use and dissemination of epidemiologic data in different cultures.
- Appreciate some of the complexities in applying scientific evidence on health and disease to the making of public policy in diverse societies.

Getting Started

Course materials

All course materials except the textbook can be accessed through the course pages in Sakai (<https://sakai.unc.edu>). You will need to login with your Onyen and password (see <http://onyen.unc.edu/> for information about these). The textbook is Aschengrau, Ann, and George R. Seage, III. *Essentials of epidemiology in public health*. Jones and Bartlett, 2nd or 3rd edition (Vic has posted some comments on the textbook at www.unc.edu/epid600/textbook/). If you purchase the 1st edition, please be sure to read Vic's comments and to compare it with the 2nd edition, which among other changes has an additional chapter. There are many other good introductory epidemiology textbooks, and you are invited to look at others at the library, books.google.com, and online.



Quantitative and computing skills

Besides word processing, email, and Internet skills, you are expected to have basic proficiency in MS Excel. If you have not used Excel, there are numerous books and Internet sites you can learn from. We strongly suggest you use Google (learn Excel) to find one that fits your learning style and time. You are also expected to be proficient in basic mathematics (e.g., through pre-calculus). A quantitative skills test will be provided so you can assess your math readiness. A list of Internet resources is available at www.unc.edu/epid600/#otherresources

Writing skills

Strong written communication skills are invaluable in both academia and the workplace. Your responses to assignments should be well-organized, clear, concise and free from grammatical and typographical errors. Graders may deduct up to 20% from the available points for poorly written answers. The UNC Writing Center (writingcenter.unc.edu) has many excellent resources available online or through personalized consultation.



Course Structure

The course is divided into modules (see below), with a weekly case study and weekly quiz, plus a midterm and final examination. You will be assigned to a small group and a teaching assistant (TA) at the beginning of the second week of the semester. You will work on the case studies with your small group in a format of your choice (e.g., Sakai discussion forum, Google doc, etc.), aided by your TA. Each week's group work will have a facilitator (or co-facilitator)s. However, each student should write up her/his own answers and submit them through a case study webform. The form will send you an email with your answers and the corresponding instructor answers. In addition there will be a weekly optional "live meeting" in Blackboard Collaborate (access through Sakai) to provide an opportunity to go over the quiz, to ask live questions, and to preview the upcoming module. The live meetings will be recorded, for later viewing.



Course Modules

The course has 15 one-week modules. Modules consist of a textbook reading, lecture, case study reading(s), and case study questions that will challenge you to analyze the material you are reading. Lectures are available as recordings in MS Silverlight or Powerpoint slides with verbatim speaker notes.



The modules are:

- I. Introduction
- II. Basic concepts: Investigating disease outbreaks
- III. Basic concepts: Studying populations
- IV. Basic concepts: Reading epidemiologic studies
- V. Basic concepts: Measuring disease; incidence and prevalence
- VI. Basic concepts: Disease natural history; population screening
- VII. Strategies: Intervention trials
- VIII. Midterm examination
- IX. Strategies: Cross-sectional, ecologic studies
- X. Strategies: Cohort studies
- XI. Strategies: Case-control studies
- XII. Hazards: Selection bias, Information bias
- XIII. Hazards: Confounding
- XIV. Synthesis: Data analysis and interpretation, causal inference
- XV. Synthesis: Broader perspectives on epidemiology and public health

Resources

All course materials should be asked through the Sakai Web Portal, sakai.unc.edu, which has links to lecture slides, recordings, readings, case studies, and examinations, organized by module. Each module begins with a page of instructions that lists assigned chapters in the Aschengrau and Seage textbook – see above, “Getting Started”, for the full citation, articles, and other items for that module.

Course Requirements

As a student in EPID600, you are required to submit answers to: (a) **12 case studies indicated in the module instructions**, (b) **10 Quizzes**, (c) **Midterm and Final Examinations**, according to the due dates (see schedule in Sakai | Syllabus). Quizzes and assignments will be timed and are intended as closed book, although use of outside materials will not be prohibited. Answers are submissions through Sakai or through special EPID600 webforms linked in Sakai.

You are also requested to submit four evaluation forms: (a) anonymous TA early evaluation; (b) 1st peer (early) evaluation, (c) 2nd peer (end-of-course) evaluation, (d) anonymous course and instructor evaluation. Links to the TA and peer evaluations will be placed in Sakai. The anonymous course evaluation is conducted by the university; you will receive an email with the link to the webform. To thank you for your time and attention in submitting evaluations, you will receive points on your overall course grade for submitting the peer and course evaluations.

Course Policies & Procedures

UNC email policy

Per UNC email policy, all course-related communications will be sent via your official

UNC email address as listed in ConnectCarolina or Sakai. It is your responsibility to ensure that you receive and read, in a timely manner, all emails sent by EPID600 instructors to your UNC email address. “Broadcast” emails (those sent to the entire class) will be archived in Sakai, so that you can verify that you are receiving them. Individually-sent emails may not be.

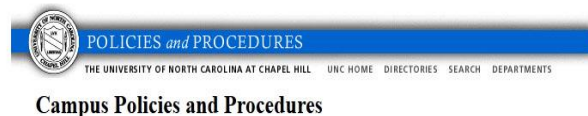
Procedure for Appealing a Score on an Assignment

If you feel you have received an incorrect score on an assignment, please raise the matter first with your TA by email and copy Vic. Please include the following information:

- Specify with full detail which questions and assignment (i.e., case study #, examination #)
- Include the question and your response to the assignment/question
- Include any feedback you have received so far
- Explain why you believe your response deserves more credit

Late Work Policy

If necessary travel or serious conflicts will make it impossible to meet a deadline, please request an extension the week beforehand from your TA and Vic. In the absence of an extension, case studies, quizzes, and the midterm may be accepted after their deadlines have passed, though a



grading penalty of as much as 10%/day will be imposed except in cases of illness, family illness, or other extenuating circumstances. Less flexibility is available for the Final Examination, which is governed by UNC policy for final examinations in undergraduate courses (www.unc.edu/ugradbulletin/procedures1.html#final_exams).

Evaluation

Course grades will be computed on a 0-100% scale as follows:

Quizzes (based on average of highest 9)	20%
Midterm examination	15%
Final examination	30%
Case studies	20%
Small group participation (based on peer and TA rating)	10%
Evaluations	5%

Letter grades – graduate students

- H: Completion of course with a total score of 90% or greater
- P: Completion of course with a total score of 65% - 89%
- L: Completion of course with a total score of 50% - 64%
- F: Students who achieve less than 50% in their course work will receive an F grade.

Letter grades

- A: Completion of course with a total score of 90% or greater (90-91% = A-)
- B: Completion of course with a total score of 75% - 89% (75-79 = B-, 85-89 = B+)
- C: Completion of course with a total score of 60% - 74% (60-64 = C-, 70-74 = C+)
- D: Completion of course with a total score of 50% - 59%
- F: Students who achieve less than 50% in their course work will receive an F grade.

In exceptional circumstances a grade of IN (incomplete) or AB (absent from the final examination) may be given. Information concerning availability and implications of various grades, deadlines for withdrawing, and other administrative concerns is best obtained from the program in which you are enrolled.

Letters of Recommendation

Should you need a letter of recommendation, please send an email to Vic with a subject line beginning “EPID600 recommendation request” and include the deadline for the recommendation and the other information he will need. An example EPID600 recommendation letter can be found at www.unc.edu/epid600/students/

UNC Honor Code

The *Honor Code* and the *Campus Code*, embodying the ideals of academic honesty, integrity, and responsible citizenship, have for over 100 years governed the performance of all academic work and student conduct at the University of North Carolina at Chapel Hill. Acceptance by a

student of enrollment in the University presupposes a commitment to the principles embodied in these codes and a respect for this most significant University tradition. Your participation in this course comes with our expectation that your work will be completed in full observance of the *Honor Code*. Academic dishonesty in any form is unacceptable, because any breach in academic integrity strikes destructively at the University's life and work. If you have any questions about your or our responsibility under the Honor System, please visit the Honor System website (honor.unc.edu) and/or consult with someone in the Office of the Student Attorney General, the Office of the Dean of Students, and/or the EPID600 instructors.

EPID600 fully supports the Honor System at Carolina. We ask you to help by (a) following the instructions that accompany assignments for graded work and (b) reporting possible infractions to the instructors. The Honor System is a precious resource that enables freer and more collegial interactions between students and faculty. We all benefit from its vitality.

Of the thousands of students who have taken EPID600, the vast majority have followed the instructions in respect to permitted collaboration. However, over the years we have had to refer some two dozen students to the Honor System, exposing them to potentially serious penalties (e.g., suspension, loss of financial aid). These instances typically involved students knowingly violating the rules for collaboration (see below), often because their thinking became clouded by anxiety. As a point of fact, the risk of failing EPID600 is much lower than the risk that one's evading the *Honor Code* will be detected. EPID600 can be challenging, but if you have difficulty to the point where you would even imagine violating the *Honor Code*, **please** ask your TA and Vic for help. There are **always** better alternatives.

The rules for complying with the *Honor Code* in EPID600 are simple:

1. **You must not communicate about an examination with anyone other than a current EPID600 instructor until the instructor answers have been posted.** However, you may use textbooks, course lectures, case study instructor answers already posted in Sakai, publications, and material on public websites.
2. You may consult materials and other people in working on your case study answers. You may **not have access to instructor answers to case studies** (e.g., from prior semesters) before these answers have been provided by the current instructors.
3. Although the issue has rarely arisen in EPID600, you should always follow guidelines about using the work of others, i.e., do not plagiarize (the Health Sciences Library has a tutorial on plagiarism and citing sources, www.hsl.unc.edu/services/tutorials/PlagiarismTutorial/intro.html). Quotations, with proper citations, do not violate the Honor Code; however, extensive quotation does not demonstrate your understanding of the material.

Important UNC policies concerning use of online resources

1. By enrolling as a student in this course, you agree to abide by the University of North Carolina at Chapel Hill policies related to the Acceptable Use of online resources. Please consult the Acceptable Use Policy (<http://help.unc.edu/1672>) on topics such as copyright, net-etiquette and privacy protection.

2. As part of this course you may be asked to participate in online discussions or other online activities that may include personal information about you or other students in the course. Please be respectful of the rights and protection of other participants under the UNC Chapel Hill Information Security Policies (http://its.unc.edu/ITS/about_its/its_policies/index.htm) when participating in online classes.
 3. When using online resources offered by organizations not affiliated with UNC Chapel Hill, such as Google or Youtube, please note that the Terms and Conditions of these companies and not the University's Terms and Conditions apply. These third parties may offer different degrees of privacy protection and access rights to online content. You should be well aware of this when posting content to sites not managed by UNC Chapel Hill.
 4. When links to sites outside of the unc.edu domain are inserted in class discussions, please be mindful that clicking on sites not affiliated with UNC-Chapel Hill may pose a risk for your computer due to the possible presence of malware on such sites.
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Valuing, Recognizing, and Encouraging Diversity

Promoting and valuing diversity in the classroom enriches learning and broadens everyone's perspectives. Inclusion and tolerance can lead to respect for others and their opinions, which is valuable in itself and is critical to maximizing the learning that occurs in this course. Other peoples' views may challenge our own closely held ideas and personal comfort zones. However, learning to understand and appreciate views different from our own can create a sense of community and promote excellence in the learning environment.

Diversity includes consideration of (1) the variety of life experiences others have had, and (2) factors related to "diversity of presence," including, among others, age, economic circumstances, ethnic identification, disability, gender, geographic origin, race, religion, sexual orientation, and social position.

This class will follow principles of inclusion, respect, tolerance, and acceptance that support the values of diversity.

Course Feedback and Evaluation

The Department of Epidemiology participates in the Carolina Course Evaluation System (CES), the University's online course evaluation tool, enabled at the end of each semester. Your responses will be anonymous, with feedback provided in the aggregate; open-ended comments will be shared with instructors, but not identified with individual students. Although most comments are not made public, if you do not wish a comment to be shared publicly, please state that in the comment. Your participation in CES is a course expectation, as providing constructive feedback is a professional expectation. Such feedback is critical to improving the quality of our courses, as well as providing input to the assessment of your instructors.

There have been several major changes to EPID600 format, content and assignments, largely in response to past student evaluations. Although our flexibility is somewhat limited by the size and diversity of the class, we want your experience to be as productive and enjoyable as possible. Your feedback is welcome at any time as well as on the final (anonymous) course evaluation.

Frequently asked questions

How can I contact my TA or the instructor?

The TAs can be contacted by email (recommended) or by phone. Contact information can be found in the Staff Information area of Sakai or at directory.unc.edu. The following practices are appreciated for emails: (1) send the email to your TA with a copy to Vic; (2) indicate in the salutation or with a cc. that you have sent it to both of us (since emails through Sakai do not show the cc addresses); (3) Begin the Subject line with “EPID600”.

What should I do if I have a question regarding the course content or an assignment?

Please email your TA and copy Vic. If we cannot resolve your questions via e-mail, then we can communicate by telephone, Skype, or in person.

What should I do if something is wrong with my computer or Sakai?

- If the problem is EPID600 specific:
 1. Email your TA and copy Vic.
 2. Begin the subject of the email with: EPID600 TECHNICAL HELP and your problem will be addressed as soon as possible.
- (ONLY) If you are experiencing a general computer problem:
 1. Call 919-962-HELP 24 hours 7 days a week for help.
 2. Be sure to also let your instructor or TA know you are having technical issues.

Where can I look to find out my course grade?

At the end of each semester, you may check your grades on <http://connectcarolina.unc.edu/>. Login to the site using your Onyen and password. Then, click the "Go" button next to grades for the semester you want to view. It may take up to three weeks after you have completed the course before grades will appear in Student Central, but Vic will send you an email shortly after he submits the course grades. Your TA can tell you how to project your course grade.

How do I go about dropping this course?

From time to time, students find it necessary to drop this course. If you think you may need to drop, please communicate with the instructor about your situation and consult with the student services staff for your program about the procedure. Depending on when you chose to drop the course, you may or may not receive a full or partial refund of your tuition – or not be permitted to drop. Therefore, be sure to pay close attention to the official drop dates and tuition refund schedules on the Registrar’s website (registrar.unc.edu).

What if it's too late to drop the course?

Tell your TA and the instructor if you think you will not be able to finish the course on time.

What if I am having a problem with my TA?

If you have any concerns with the performance of your TA, please contact the instructor as soon as possible. This document from the UNC Writing Center is particularly relevant if you have an international TA: <http://writingcenter.unc.edu/handouts/international-teaching-assistants-and-you/>

Words to the Wise

- Please save a copy of your responses to all assignments before you submit them electronically and retain the copy or confirmation email. Although fortunately rare, webform submissions and/or emails are occasionally erased or otherwise lost.
- If you need help, please do not hesitate to ask your TA for assistance. Also, campus librarians are available to help you locate information for this course (except for quizzes and examinations).
- Please don't wait until the end of the week to work on the case study. These assignments will take some time to complete.
- Should unforeseen events or life/work commitments occur during the semester which will impact your course work, please let your TA know as soon as possible. If an examination deadline is the issue, please notify your TA and Vic in advance.

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Economics and Statistics Administration
U.S. Census Bureau**
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