



PubH 3350
People, Places and Disease: Introduction to Epidemiology
Spring 2018

Credits: 2
Meeting Days: Thursdays
Meeting Time: 3:35 – 5:30 PM
Meeting Place: Mayo 3-125

Instructor: Dr. Ruby H.N. Nguyen
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I. Course Description

The field of epidemiology can be simply defined as the study of epidemics; this definition, however, is much too limited. This course focuses on how diseases are spread within populations of people and within our communities. Diseases may be spread from person-to-person, through a carrier such as an insect, or be traditionally non-infectious. The study of disease distribution in populations and communities, the identification of factors associated with the distribution, and development and evaluation of ways to prevent disease is called epidemiology. Through an introduction to epidemiologic terminology, methods, critical thinking, and basic analysis, students will be able to describe how disease is distributed within populations and communities. Diseases to be discussed will range from sudden-onset infectious diseases (such as some foodborne illnesses) to non-infectious chronic diseases; U.S. and global views of epidemiologic research will also be discussed. Interactive class exercises and lectures will be used to introduce students to epidemiology, which is at the core of the entire field of public health. This course is intended for undergraduate students interested in any health science career, or those interested in a career that may need to use data and conclusions from epidemiologic studies, such as health journalism or public policy or the law.

II. Course Prerequisites

None.

III. Course Goals and Objectives

1. To describe how epidemiology, and all of public health, involves multiple fields of study and areas of expertise.
2. To use proportions and rates to numerically express the amount of disease in specific populations.
3. To explore how the level of disease in specific populations can help an epidemiologist answer questions and generate future hypotheses that clarify how an exposure can cause a specific disease.
4. To explain the strengths and limitations of epidemiologic studies in determining causes of disease.

IV. Methods of Instruction and Work Expectations

Lecture and guest lecture, videos, in-class exercises and tutorials, and active participation via discussion. For lectures given by Dr. Nguyen, Power Point handouts of the slides will be available at the start of each class (hard copy) and then electronically after class on the class Moodle site. If a student is unable to take notes in that way, he/she is expected to speak with Dr. Nguyen in person or communicate over email by the end of the first week of class.

One short break of approximately 5 – 10 minutes will occur midway through each class session. **Laptop computers and other electronic devices will only be permitted during these class breaks.** See University of Minnesota administrative policy, “Use of Personal Electronic Devices in the Classroom: Twin Cities, Crookston, Morris, Rochester” (<http://policy.umn.edu/Policies/Education/Education/CLASSROOMPED.html>).

There are two quizzes (see section VII) in this course; each quiz is scheduled for 1 hour. Students may leave after the quiz. However, there is a graded assignment to make-up for the second hour of class. The class schedule (below) describes that students will be expected to watch a CDC Public Health Grand Rounds (to be assigned in class) and then post discussion to Moodle as directed.

Communicating with Professor Nguyen

Email is the best and most effective way to communicate with Dr. Nguyen (nguyen@umn.edu). However, students should expect responses to emails only during work hours. For example, a student who emails a request the night before an exam should not expect to hear from the instructors until at least 9:00 AM but it could be that a feasible response would not occur until after the exam.

V. Course Text and Readings

One textbook is required: “Epidemiology”, 5th edition, by Gordis; this text will be the primary reading material.

VI. Course Outline/Weekly Schedule

The course outline is represented as the weekly schedule. See the weekly schedule below.

VII. Evaluation and Grading

Students will be evaluated on class participation, exercises, quizzes, and exams. There will be a total of 1,000 class points.

Exercises (200 points – 100 points each)

There will be 2 class exercises that will be submitted, graded and returned with comments. Each exercise will be worth 10% (or 100 points) of a student’s grade. The first exercise will be due on **February 1**. The second exercise will be due on **March 1**. Details on the exercises will be discussed in class and available in Moodle.

Quizzes (200 points – 100 points each)

There will be two quizzes, **February 8 and April 19**. Each will be worth 10% of a student’s grade. Each quiz will be administered via Moodle out of the classroom and last 1 hour. Quizzes will be timed and begin at the start of class, 3:35 PM on the assigned days. There will be no make-up quizzes past 1 week. If you would like to request a rescheduled quiz, you must email Dr. Nguyen prior to class with your University-approved excuse for her to evaluate. If you do not do so, your request will not be granted.

Class Participation (100 points – 50 points each)

Students will be expected to attend each class and entire class sessions. On the days of the two quizzes, **February 8** and **April 19**, after the quiz students will be required to watch an assigned CDC Public Health Grand Rounds and answer the posted question in Moodle. For each successfully completed activity, the student will receive 50 pts (for a total of 100 pts) for their class participation grade.

Midterm Exam (250 points)

The midterm exam will be held on **March 8** in-class and is scheduled to last for one entire class session. The midterm exam will cover material presented in the first 7 weeks of class. The midterm will comprise a mixed format, including: definition, calculation, and short answer. If you would like to request a rescheduled midterm exam, you must contact Dr. Nguyen prior to the start of class. If you do not do so, your request will not be granted.

Final Project (250 points)

The final project has 4 graded components listed in the class schedule below. **Further detail is provided in the final project rubric.** The final project asks that each student identify a community organization for which the student will develop an epidemiological study to address a health concern relevant to the organization. Students will describe the health issue and the study design for the proposed project. Lastly, each student will be asked to describe how the results of the study will be communicated back to the community members.

** All late assignments will be subject to a 5% deduction in grade for each day it is late. Incomplete and missing assignments will be given a 0 point value. Students are encouraged to frequently check their Moodle grade book to assess any inconsistencies or missing work. Arrangements to reschedule exams must be made prior to the exam time by at least one full day. Exams that are unable to be rescheduled within 7 school days after the exam was completed will be given a 0 point value. There are a few exceptions to this policy (indicated below) when no late assignment will be accepted. **

Grading

Course grades will be determined with the following percentages:

| | | | | |
|-------------|---|-------------|-----------------|----|
| 90% - 100% | A | 90% - 92.9% | A- | |
| 80% - 89.9% | B | 80% - 82.9% | B-, 88% - 89.9% | B+ |
| 70% - 79.9% | C | 70% - 72.9% | C-, 78% - 79.9% | C+ |
| 50% - 69.9% | D | | | |
| < 50% | F | | | |

Students taking the course Pass/Fail (S/N) are required to receive at least 70% to receive a Pass (S) grade.

The University utilizes plus and minus grading on a 4.000 cumulative grade point scale in accordance with the following:

| | |
|----|----------------------------------------------------------------------------------------------------------------|
| A | 4.000 - Represents achievement that is outstanding relative to the level necessary to meet course requirements |
| A- | 3.667 |
| B+ | 3.333 |
| B | 3.000 - Represents achievement that is significantly above the level necessary to meet course requirements |
| B- | 2.667 |
| C+ | 2.333 |

- C 2.000 - Represents achievement that meets the course requirements in every respect
- C- 1.667
- D+ 1.333
- D 1.000 - Represents achievement that is worthy of credit even though it fails to meet fully the course requirements
- S Represents achievement that is satisfactory, which is equivalent to a C- or better.

For additional information, please refer to:

<http://policy.umn.edu/Policies/Education/Education/GRADINGTRANSCRIPTS.html>.

Course Evaluation

The SPH will collect student course evaluations electronically using a software system called CoursEval: www.sph.umn.edu/courseval. 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 as the faculty member renders the grade in SPHGrades: www.sph.umn.edu/grades. All students will have access to their final grades through OneStop 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 an 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.

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 official 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 SPHGrades at: 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.

VIII. Other Course Information and Policies

Grade Option Change (if applicable):

For full-semester courses, students may change their grade option, if applicable, through the second week of the semester. Grade option change deadlines for other terms (i.e. summer and half-semester courses) 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 Office of Admissions and Student Resources at sph-ssc@umn.edu for further information.

Student Conduct Code:

The University seeks an environment that promotes academic achievement and integrity, that is protective of free inquiry, and that serves the educational mission of the University. Similarly, the University seeks a community that is free from violence, threats, and intimidation; that is respectful of the rights, opportunities,

and welfare of students, faculty, staff, and guests of the University; and that does not threaten the physical or mental health or safety of members of the University community.

As a student at the University you are expected adhere to Board of Regents Policy: *Student Conduct Code*. To review the Student Conduct Code, please see:

http://regents.umn.edu/sites/default/files/policies/Student_Conduct_Code.pdf.

Note that the conduct code specifically addresses disruptive classroom conduct, which means "engaging in behavior that substantially or repeatedly interrupts either the instructor's ability to teach or student learning. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities."

Use of Personal Electronic Devices in the Classroom:

Using personal electronic devices in the classroom setting can hinder instruction and learning, not only for the student using the device but also for other students in the class. To this end, the University establishes the right of each faculty member to determine if and how personal electronic devices are allowed to be used in the classroom. For complete information, please reference:

<http://policy.umn.edu/Policies/Education/Education/STUDENTRESP.html>.

Scholastic Dishonesty:

You are expected to do your own academic work and cite sources as necessary. Failing to do so is scholastic dishonesty. Scholastic dishonesty means 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; altering, forging, or misusing a University academic record; or fabricating or falsifying data, research procedures, or data analysis. (Student Conduct Code:

http://regents.umn.edu/sites/default/files/policies/Student_Conduct_Code.pdf) If it is determined that a student has cheated, he or she may be given an "F" or an "N" for the course, and may face additional sanctions from the University. For additional information, please see:

<http://policy.umn.edu/Policies/Education/Education/INSTRUCTORRESP.html>.

The Office for Community Standards has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty <https://communitystandards.umn.edu>. If you have additional questions, please clarify with your instructor for the course. Your instructor can respond to your specific questions regarding what would constitute scholastic dishonesty in the context of a particular class-e.g., whether collaboration on assignments is permitted, requirements and methods for citing sources, if electronic aids are permitted or prohibited during an exam.

Makeup Work for Legitimate Absences:

Students will not be penalized for absence during the semester due to unavoidable or legitimate circumstances. Such circumstances include verified illness, participation in intercollegiate athletic events, subpoenas, jury duty, military service, bereavement, and religious observances. Such circumstances do not include voting in local, state, or national elections. For complete information, please see:

<http://policy.umn.edu/Policies/Education/Education/MAKEUPWORK.html>.

Appropriate Student Use of Class Notes and Course Materials:

Taking notes is a means of recording information but more importantly of personally absorbing and integrating the educational experience. However, broadly disseminating class notes beyond the classroom community or accepting compensation for taking and distributing classroom notes undermines instructor interests in their intellectual work product while not substantially furthering instructor and student interests in effective learning. Such actions violate shared norms and standards of the academic community. For additional information, please see: <http://policy.umn.edu/Policies/Education/Education/STUDENTRESP.html>.

Sexual Harassment:

"Sexual harassment" means unwelcome sexual advances, requests for sexual favors, and/or other verbal or physical conduct of a sexual nature. Such conduct has the purpose or effect of unreasonably interfering with an individual's work or academic performance or creating an intimidating, hostile, or offensive working or academic environment in any University activity or program. Such behavior is not acceptable in the

University setting. For additional information, please consult Board of Regents Policy:
<http://regents.umn.edu/sites/default/files/policies/SexHarassment.pdf>

Equity, Diversity, Equal Opportunity, and Affirmative Action:

The University will provide equal access to and opportunity in its programs and facilities, without regard to race, color, creed, religion, national origin, gender, age, marital status, disability, public assistance status, veteran status, sexual orientation, gender identity, or gender expression. For more information, please consult Board of Regents Policy:
http://regents.umn.edu/sites/default/files/policies/Equity_Diversity_EO_AA.pdf.

Disability Accommodations:

The University of Minnesota is committed to providing equitable access to learning opportunities for all students. The Disability Resource Center Student Services is the campus office that collaborates with students who have disabilities to provide and/or arrange reasonable accommodations.

If you have, or think you may have, a disability (e.g., mental health, attentional, learning, chronic health, sensory, or physical), please contact DRC at 612-626-1333 or drc@umn.edu to arrange a confidential discussion regarding equitable access and reasonable accommodations.

If you are registered with DS and have a current letter requesting reasonable accommodations, please contact your instructor as early in the semester as possible to discuss how the accommodations will be applied in the course.

For more information, please see the DS website, <https://diversity.umn.edu/disability/>.

Mental Health and Stress Management:

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance and may reduce your ability to participate in daily activities. University of Minnesota services are available to assist you. You can learn more about the broad range of confidential mental health services available on campus via the Student Mental Health Website: <http://www.mentalhealth.umn.edu>.

The Office of Student Affairs at the University of Minnesota:

The Office for Student Affairs provides services, programs, and facilities that advance student success, inspire students to make life-long positive contributions to society, promote an inclusive environment, and enrich the University of Minnesota community.

Units within the Office for Student Affairs include, the Aurora Center for Advocacy & Education, Boynton Health Service, Central Career Initiatives (CCE, CDes, CFANS), Leadership Education and Development – Undergraduate Programs (LEAD-UP), the Office for Fraternity and Sorority Life, the Office for Community Standards, the Office for Student Engagement, the Parent Program, Recreational Sports, Student and Community Relations, the Student Conflict Resolution Center, the Student Parent HELP Center, Student Unions & Activities, University Counseling & Consulting Services, and University Student Legal Service.

For more information, please see the Office of Student Affairs at <https://osa.umn.edu/>.

Academic Freedom and Responsibility: *for courses that do not involve students in research:*

Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.*

OR:

Academic Freedom and Responsibility, for courses that involve students in research

Academic freedom is a cornerstone of the University. Within the scope and content of the course as defined by the instructor, it includes the freedom to discuss relevant matters in the classroom and conduct relevant

research. Along with this freedom comes responsibility. Students are encouraged to develop the capacity for critical judgment and to engage in a sustained and independent search for truth. Students are free to take reasoned exception to the views offered in any course of study and to reserve judgment about matters of opinion, but they are responsible for learning the content of any course of study for which they are enrolled.* When conducting research, pertinent institutional approvals must be obtained and the research must be consistent with University policies.

Reports of concerns about academic freedom are taken seriously, and there are individuals and offices available for help. Contact the instructor, the Department Chair, your adviser, the associate dean of the college, (Dr Kristin Anderson, SPH Dean of Student Affairs), or the Vice Provost for Faculty and Academic Affairs in the Office of the Provost.

** Language adapted from the American Association of University Professors "Joint Statement on Rights and Freedoms of Students".*

Student Academic Success Services (SASS): <http://www.sass.umn.edu>:

Students who wish to improve their academic performance may find assistance from Student Academic Support Services. While tutoring and advising are not offered, SASS provides resources such as individual consultations, workshops, and self-help materials.

Template update 8/2017

**Class Schedule PubH 3350: People, Places and Disease:
Introduction to Epidemiology**

Thursdays, 3:35 – 5:30 p.m., Spring 2018

WEEK 1 – January 18: What is epidemiology?

We will also review the syllabus and class schedule

Lecture: Defining epidemiology, and describing sources of data

Reading: Chapter 1 & 3

Homework Assignment: Complete Review Questions for Chapter 3 (optional)

WEEK 2 - January 25: How do we track disease to identify epidemics?

Lecture: Surveillance; incidence; prevalence; outbreak investigation; measures of mortality

Reading: Chapter 2 & 4

Homework Assignment: Complete Review Questions for Chapter 2 & 4 (optional)

WEEK 3 – February 1: How do diseases change over time?

Lecture: Describing clinical and sub-clinical disease; incubation period; survival time

Reading: Chapter 6

Homework Assignment: Review Moodle course material on survival analyses and complete Exercise 1; Complete Review Questions for Chapter 6 (optional)

EXERCISE 1 due at the beginning of class via Moodle

WEEK 4 – February 8: Synthesizing the first 3 weeks of class

QUIZ 1 (covering Weeks 1 – 3) via Moodle

PARTICIPATION POINTS: Watch CDC Grand Rounds lecture and post response on Moodle

WEEK 5 - February 15: Are there ways to experiment in epidemiology?

Lecture: Design and interpretation of randomized clinical trials

Reading: Chapters 7 & 8

Homework Assignment: Complete Review Questions for Chapter 7 & 8 (optional)

WEEK 6 - February 22: Observational studies: Cohort and case-control study designs

Lecture: Design and interpretation of cohort and case-control study designs

Reading: Chapters 9, 10 & 13

Homework Assignment: Complete Review Questions for Chapters 9, 10 & 13 (optional); think about community scan for Final Project

WEEK 7 – March 1: Are exposures and outcomes associated?

EXERCISE 2 due at the beginning of class

Lecture: Absolute risk; relative risk; odds ratio; (public health) attributable risk; interpretation of risk estimates

Reading: Chapters 11 & 12

Homework Assignment: Complete Review Questions for Chapters 11 & 12 (optional)

WEEK 8 – March 8: MIDTERM EXAM

WEEK 9 – March 15: SPRING BREAK

WEEK 10 – March 22: What conclusions can be made from epidemiologic studies?

Lecture: Making Inferences from Epidemiologic Studies and Validity & Reliability; Criteria for causation with a critical eye on assessing the quality of the data we use for causation.

Reading: Chapters 5 & 14; chapter 15 is interesting but not necessary reading

Homework Assignment: Complete Review Questions for Chapters 5 & 14 (optional); develop methods for Final Project; **Community scan for final project due**

WEEK 11 – March 29: Guest Lecture

WEEK 12 – April 5: Guest Lecture

Methods for final project due

WEEK 13 – April 12: Epidemiology to Evaluate Health Services and Screening Programs

Lecture: How can epidemiology assist in determining the value of health services and screening?

Reading: Chapters 17 & 18

Homework Assignment: Complete Review Questions for Chapters 17 & 18 (optional)

WEEK 14 – April 19:

QUIZ 2 (covering Weeks 9 – 13)

PARTICIPATION POINTS: Watch CDC Grand Rounds lecture and post response on Moodle

WEEK 15 – April 26: Out-of-Class Final Projects

FINAL PROJECT due at the beginning of the class 3:35 PM Central Time

Your FINAL PROJECT will not be considered complete until you select 4 student projects to watch and then answer questions that I pose for each of the presentations. Watching and answering questions for these 4 presentations will constitute your last class period.

GRADE AND ASSIGNMENT SUMMARY

| Assignment | Due Date | Points | % of Grade |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------------|
| EXERCISE 1 | February 1 | 100 | 10% |
| QUIZ 1 | February 8 | 100 | 10% |
| EXERCISE 2 | March 1 | 250 | 25% |
| MIDTERM | March 8 | 100 | 10% |
| QUIZ 2 | April 19 | 100 | 10% |
| FINAL PROJECT | March 22 for the community scan; April 5 for methods; April 26 for your VoiceThread project and April 26 for viewing and responding to 4 classmate presentations | 250 | 25% |
| Class Participation | February 8 and April 19 | 100 | 10% |
| Total | | 1,000 | 100% |

*** Students should periodically check the course Moodle site to check their grade entries. No retroactive changes to the grade book will be made after April 26, 2018, the last day of class.**