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, short 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 least 24-hours prior to the lecture from 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).

For guest lectures, the first 1.0 – 1.5 hours will be the guest lecture then followed by student questions and discussion. After the short break, the remaining one hour or so will be spent on theoretically dissecting and discussing a relevant published epidemiologic article. Students will be required to retrieve the article via PubMed using search terms provided by Dr. Nguyen, then after retrieving the article, read the article, and be prepared to discuss it.

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 attached.

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.

Class Participation (100 points maximum)

Students will be expected to attend entire class sessions. Class participation will be evaluated and assigned a point value on specific assignments. There will be three different scheduled opportunities for students to earn their class participation grade: attending and writing a question for the speaker at the special seminar on February 12th (50 pts), posing an epidemiology-related question to guest lecturers (occurring in April and May) (25 pts), and actively participating in discussion about the assigned article after a guest lecture (occurring in April and May) (25 pts). Full credit (100 points) will be assigned only if all 3 activities were accomplished. Details for the special seminar will be discussed in class closer to the date.

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 an outbreak investigation and will be due on February 12th. The second exercise will be due on April 9th. 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 26th and April 2nd. Each will be worth 10% of a student’s grade. Each quiz will last 50 minutes, or half of the class period. Quiz 2 will only cover textbook chapters 5 and 14.
Exams (500 points – 250 points each)

The midterm exam will be held on March 12th 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.

The final exam will be a take-home exam distributed via Moodle by Thursday, May 7th, 2015. The final exam must be submitted no later than the scheduled final exam date and time of Saturday, May 16th, 2015 before 10:30 AM Central Time. The final exam is cumulative; all topics presented in class during the semester are eligible to appear on the final exam. The final exam will comprise a mixed format, including: definition, calculation, short answer, and essay.

Grading

Course grades will be determined with the following percentages:

<table>
<thead>
<tr>
<th>Percentage Range</th>
<th>Grade</th>
<th>Grade Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>90% - 100%</td>
<td>A</td>
<td>90% - 92.9% A-</td>
</tr>
<tr>
<td>80% - 89.9%</td>
<td>B</td>
<td>80% - 82.9% B-, 88% - 89.9% B+</td>
</tr>
<tr>
<td>70% - 79.9%</td>
<td>C</td>
<td>70% - 72.9% C-, 78% - 79.9% C+</td>
</tr>
<tr>
<td>50% - 69.9%</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>&lt; 50%</td>
<td>F</td>
<td></td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Grade Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4.000 – Represents achievement that is outstanding relative to the level necessary to meet course requirements</td>
</tr>
<tr>
<td>A-</td>
<td>3.667</td>
</tr>
<tr>
<td>B+</td>
<td>3.333</td>
</tr>
<tr>
<td>B</td>
<td>3.000 – Represents achievement that is significantly above the level necessary to meet course requirements</td>
</tr>
<tr>
<td>B-</td>
<td>2.667</td>
</tr>
<tr>
<td>C+</td>
<td>2.333</td>
</tr>
<tr>
<td>C</td>
<td>2.000 – Represents achievement that meets the course requirements in every aspect</td>
</tr>
<tr>
<td>C-</td>
<td>1.667</td>
</tr>
<tr>
<td>D+</td>
<td>1.333</td>
</tr>
<tr>
<td>D</td>
<td>1.000 – Represents achievement that is worthy of credit even though it fails to meet fully the course requirements</td>
</tr>
<tr>
<td>S</td>
<td>Represents achievement that is satisfactory, which is equivalent to a C- or better.</td>
</tr>
</tbody>
</table>

For additional information, please refer to:

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

Deadlines

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.

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 to 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 Student Conduct and Academic Integrity has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: http://www1.umn.edu/oscai/integrity/student/index.html. 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.

Students with a disability accommodation should email Dr. Nguyen and the TA Samantha Ristow by January 26th regarding their status for accommodation(s).

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 Student Conduct and Academic Integrity, 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 http://www.osa.umn.edu/index.html.

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.*

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 8/2014
# Class Schedule PubH 3350: People, Places and Disease: Introduction to Epidemiology

**Thursdays, 3:35 – 5:30 p.m., Spring 2015**

### WEEK 1 - January 22: Disease Distribution: laboratories, clinics, behavior, and epidemiology

- **Reviewing the syllabus and class schedule**
- **Lecture:** Modes of transmission; attack rate; herd immunity; outbreak investigation
- **Reading:** Chapters 1 – 2
- **Homework Assignment:** Complete Review Questions for Chapter 2

### WEEK 2 - January 29: Quantifying Illness and Death

- **Surveillance; sources of data on morbidity and mortality; incidence; prevalence; case-fatality rate; years of potential life lost**
- **Reading:** Chapters 3 & 4
- **Homework Assignment:** Complete Review Questions for Chapters 3 & 4
- **EXERCISE 1 ASSIGNED**

### WEEK 3 - February 5: A Disease Over Time

- **Clinical and sub-clinical disease; incubation period; survival time**
- **Reading:** Chapter 6
- **Homework Assignment:** Complete Review Questions for Chapter 6

### WEEK 4 - February 12: Review and Discussion of Article + Special Lecture on Alcohol Epi & Policy (class participation points)

- **Homework Assignment:** Catch up on previous chapter exercises if you have fallen behind
- **EXERCISE 1 DUE AT THE BEGINNING OF CLASS**

### WEEK 5 - February 19: Randomized Controlled Trials

- **Design and interpretation of randomized clinical trials**
- **Reading:** Chapters 7 & 8
- **Homework Assignment:** Complete Review Questions for Chapter 7 & 8

### WEEK 6 - February 26: Observational Studies: Cohort and Case-Control Study Designs

- **Design and interpretation of cohort study and case-control study designs**
- **Reading:** Chapters 9, 10 & 13
- **Homework Assignment:** Complete Review Questions for Chapters 9, 10 & 13
- **QUIZ 1**
### WEEK 7 - March 5: Are Exposures and Outcomes Associated?
Absolute risk; relative risk; odds ratio; (public health) attributable risk; interpretation of risk estimates

<table>
<thead>
<tr>
<th>Reading:</th>
<th>Chapters 11 &amp; 12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework Assignment:</td>
<td>Complete Review Questions for Chapters 11 &amp; 12; identify an exposure and outcome of interest for PubMed search assignment</td>
</tr>
</tbody>
</table>

### WEEK 8 - March 12: MIDTERM EXAM

### WEEK 9 - March 19: SPRING BREAK -- NO CLASS

### WEEK 10 - March 26: 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.

<table>
<thead>
<tr>
<th>Reading:</th>
<th>Chapters 5 &amp; 14; chapter 15 is interesting but not necessary reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework Assignment:</td>
<td>Complete Review Questions for Chapters 5 &amp; 14</td>
</tr>
</tbody>
</table>

### WEEK 11 – April 2: QUIZ 2 and Chronic Pain Case Study Introduction
EXERCISE 2 ASSIGNED

### WEEK 12 - April 9: Brent Taylor, Ph.D. – Epidemiologic research at the Veterans Administration
EXERCISE 2 DUE AT THE BEGINNING OF CLASS

### WEEK 13 - April 16: Sarah Cusick, Ph.D. – Global nutrition

### WEEK 14 - April 23: Allison LaPointe, M.P.H. and Dawn Ginzl, M.P.H. – Minnesota STD & HIV Surveillance

### WEEK 15 – April 30: Shannon Laughlin-Tommaso, M.D., M.P.H. – Clinical epidemiology

### WEEK 16 - May 7: Benjamin Capistrant, Ph.D. – Social epidemiology
TAKE-HOME FINAL EXAM POSTED TO MOODLE

**DUE DATE for Take-Home Final Exam for this course via Moodle:**
10:30 a.m. Central Time, SATURDAY, MAY 16, 2015
### GRADE AND ASSIGNMENT SUMMARY

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Due Date</th>
<th>Points</th>
<th>% of Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exercise 1</td>
<td>February 12</td>
<td>100</td>
<td>10%</td>
</tr>
<tr>
<td>Quiz I</td>
<td>February 26</td>
<td>100</td>
<td>10%</td>
</tr>
<tr>
<td>Midterm</td>
<td>March 12</td>
<td>250</td>
<td>25%</td>
</tr>
<tr>
<td>Quiz II</td>
<td>April 2</td>
<td>100</td>
<td>10%</td>
</tr>
<tr>
<td>Exercise 2</td>
<td>April 9</td>
<td>100</td>
<td>10%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>May 16</td>
<td>250</td>
<td>25%</td>
</tr>
<tr>
<td>Class Participation</td>
<td>TBA</td>
<td>100</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>1,000</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

* Students should periodically check the course Moodle site to check their grade entries. No retrospective changes to the gradebook will be made after May 7th, the last day of class.*