



## **PUBH 6385, SECTION 1**

### **Epidemiology and Control of Infectious Diseases**

### **Spring Semester, 2019**

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#### **COURSE & CONTACT INFORMATION**

<b>Credits:</b>	<b>2</b>
<b>Meeting Days:</b>	<b>Mondays and Wednesday</b>
<b>Meeting Time:</b>	<b>2:30 - 4:25 PM</b>
<b>Meeting Place:</b>	<b>Moos Health Sci Tower 2-520</b>
<b>Instructor:</b>	<b>Alan Lifson, MD, MPH</b>
<b>Office Address:</b>	<b>492 WBOB</b>
<b>Office Phone:</b>	<b>612-626-9697</b>
<b>E-mail:</b>	<b>lifso001@umn.edu</b>
<b>Office Hours:</b>	<b>By appointment</b>
<b>TA:</b>	<b>Waruiru Mburu</b>
<b>E-mail:</b>	<b>mburu@umn.edu</b>

#### **COURSE DESCRIPTION**

The purpose of this graduate level course is to learn more about the principles and practice of infectious disease epidemiology, including how communicable diseases and their control affects public health locally, nationally and internationally. We will explore infectious diseases from a variety of different perspectives, in different institutions, and as it affects different populations

#### **COURSE PREREQUISITES**

PUBH 6320 Fundamentals of Epidemiology or PUBH 6341 Epidemiologic Methods I

#### **COURSE GOALS & OBJECTIVES**

Learning objectives for this course include greater appreciation and understanding of:

- General principles of infectious disease epidemiology, including: Principles of Infectious Diseases; Outbreak Investigation; Role of the Public Health Laboratory; Disease Surveillance; Principles of Screening and Screening Tests
- Major infectious diseases and modes of transmission, including: Food-borne Illness; Zoonotic Diseases; Tuberculosis; Influenza; Vector-Borne Diseases; Malaria; Other Parasitic Diseases; HIV/AIDS; Sexually Transmitted Diseases; Viral Hepatitis; Antibiotic Resistant Bacteria
- Different control and evaluation strategies for infectious diseases, including: Vaccination; Nosocomial Infections; Behavior Change and HIV/STDs; Blood Safety; Immigrant and Refugee Health; International Research in Resource Poor Settings; Critical Reading of Medical Literature

## **METHODS OF INSTRUCTION AND WORK EXPECTATIONS**

Methods of instruction include lectures, in-class discussion, readings, and take-home exercises. Because this is an integral part of the class, and out of respect to the many outside lecturers who are contributing their time and expertise, all students are expected to attend class. PubH 6385 is a 2 credit course. The University expects that for each credit, you will spend a minimum of three hours per week attending class or comparable online activity, reading, studying, completing assignments, etc. over the course of a 15-week term.

Over the course of this semester, students will be exposed to a variety of perspectives, reflecting different cultures, lifestyles, personal beliefs, and experiences. We do not come to our courses with identical backgrounds and experiences and building on what we already know about collaborating, listening, and engaging is critical to successful professional, academic, and scientific engagement with topics. Students are expected to be respectful of instructors and their fellow students, and have a right to expect such respect in return. Concerns in this regard should be discussed as soon as possible with either the Instructor or TA. In group discussion, this can mean respecting the identities and experiences of your classmates, and avoiding broad statements and generalizations, and considering your tone and language. . Like other work in the course, all student to student communication is covered by the Student Conduct Code (<https://z.umn.edu/studentconduct>).

## **COURSE TEXT & READINGS**

Communicable Diseases: A Global Perspective. Roger Webber, 2016. Boston MA: CABI

"Control of Communicable Diseases Manual", 20th Edition, edited by David L. Heymann. American Public Health Association, 2015.

Additional readings will be given during the course of the class, and posted to the course website.

## COURSE OUTLINE/WEEKLY SCHEDULE

Week	Topic	Readings	Activities/Assignments
<b>Wednesday, 3/13/19</b>	<p>Speaker: Alan Lifson            Topic: Introduction to ID Epidemiology            Time: 2:30 PM-4:25 PM</p>	<p>Weber, Chapter 1: Elements of Communicable Diseases            Weber: Chapter 2: Communicable Disease Theory            Weber: Chapter 6: Classification of Communicable Diseases</p>	
<b>Monday, 3/25/19</b>	<p>Speaker: Rich Danila            Topic: Influenza            Time: 2:30 PM-3:25 PM</p> <p>Speaker: Alan Lifson            Topic: ID Screening, Surveillance            Time: 3:30 PM-4:25 PM</p>	<p>Weber, Chapter 3: Control Principles and Methods            Weber: Chapter 4: Control Strategies and Organization            Weber: Chapter 5: Notification and Regulations            CCDM: Influenza</p>	<b>ASSIGNMENT 1 HANDED OUT</b>
<b>Wednesday, 3/27/19</b>	<p>Speaker: Dave Neitzel            Topic: Vector-Borne Diseases            Time: 2:30 PM-3:25 PM</p> <p>Speaker: Kirk Smith            Topic: Food-borne Illness            Time: 3:30 PM-4:25 PM</p>	<p>Weber, Chapter 8: Fecal-Oral Diseases            Weber, Chapter 15: Insect-borne Diseases            Weber, Chapter 16: Ectoparasite Zoonoses            CCDM: Lyme, Norovirus, Salmonella</p>	
<b>Monday, 4/1/19</b>	<p>Speaker: Kris Ehresmann            Topic: Vaccine Preventable Diseases            Time: 2:30 PM-3:25 PM</p> <p>Speaker: Alan Lifson            Topic: Tuberculosis            Time: 3:30 PM-4:25 PM</p>	<p>Weber, Chapter 12: Skin Infections            Weber, Chapter 13: Respiratory and Other Airborne Disease            CCDM: Measles, Pertussis, Polio</p>	<p><b>ASSIGNMENT 1 DUE</b>  <b>ASSIGNMENT 2 HANDED OUT</b></p>

Week	Topic	Readings	Activities/Assignments
<b>Wednesday, 4/3/19</b>	Speaker: Jeff Bender Topic: Zoonotic Diseases Time: 2:30 PM-3:25 PM  Speaker: Alan Lifson Topic: Malaria Time: 3:30 PM-4:25 PM	Weber, Chapter 17: Domestic and Synanthropic Zoonoses CCDM: Rabies, Malaria"	
<b>Monday, 4/8/19</b>	Speaker: Alan Lifson Topic: Sexual Transmitted Infections Time: 2:30 PM-3:25 PM  Speaker: Alan Lifson Topic: HIV/AIDS Time: 3:30 PM-4:25 PM	Weber, Chapter 14: Diseases Transmitted by Body Fluids Weber, Chapter 18: Pregnancy and Infection CCDM: Chlamydia, Syphilis, HIV/AIDS	<b>ASSIGNMENT 2 DUE</b> <b>ASSIGNMENT 3 HANDED OUT</b>
<b>Wednesday, 4/10/19</b>	Speaker: Mary Ellen Bennett Topic: Healthcare Infections/Infection Prevention Time: 2:30 PM-3:25 PM  Speaker: Alan Lifson Topic: Viral Hepatitis Time: 3:30 PM-4:25 PM	Weber, Chapter 7: Diseases of Poor Hygiene CCDM: Scabies, Viral Hepatitis	
<b>Monday, 4/15/19</b>	Speaker: Ruth Lynfield Topic: Invasive Bacterial Infections/Antibiotic Resistance Time: 2:30 PM-3:25 PM  Speaker: Kelly Searle Topic: Social Network Analysis, GIS Time: 3:30 PM-4:25 PM	Weber, Chapter 19: New and Emerging Diseases CCDM: Staphylococcal Disease, Pneumococcal Pneumonia Additional readings to be assigned	<b>ASSIGNMENT 3 DUE</b> <b>ASSIGNMENT 4 HANDED OUT</b>

Week	Topic	Readings	Activities/Assignments
<b>Wednesday, 4/17/19</b>	Speaker: Joanne Bartkus Topic: Role of the Public Health Lab Time: 2:30 PM-3:25 PM  Speaker: Jeff McCullough Topic: Screening and Blood Safety Time: 3:30 PM-4:25 PM	Additional readings to be assigned	
<b>Monday, 4/22/19</b>	Speaker: Lisa Lynch Jones Topic: Travel Medicine Time: 2:30 PM-3:25 PM  Speaker: Kumi Smith Topic: Transmission Models Time: 3:30 PM-4:25 PM	Additional readings to be assigned	<b>ASSIGNMENT 4 DUE</b> <b>ASSIGNMENT 5 HANDED OUT</b>
<b>Wednesday, 4/24/19</b>	Speaker: Alan Lifson Topic: Parasitology Time: 2:30 PM-3:25 PM  Speaker: Ryan Demmer Topic: Intestinal microbiome & disease Time: 3:30 PM-4:25 PM	Weber, Chapter 9: Foodborne Diseases Weber, Chapter 10: Diseases of Soil Contact Weber, Chapter 11: Diseases of Water Contact	
<b>Monday, 4/29/19</b>	Speaker: Alan Lifson Topic: Outbreak Investigation Time: 2:30 PM-4:25 PM	CCDM: Botulism Additional readings to be assigned	<b>ASSIGNMENT 5 DUE</b> <b>ASSIGNMENT 6 HANDED OUT</b>

Week	Topic	Readings	Activities/Assignments
<b>Wednesday, 5/1/19</b>	<p>Speaker: Waruiru Mburu            Topic: HPV, Infectious causes of cancer            Time: 2:30 PM-3:25 PM</p> <p>Speaker: Alan Lifson            Topic: Reading the medical literature            Time: 3:30 PM-4:25 PM</p>	<p>CCDM: HPV            Wakefield AJ, et al. Lancet 1998;351:637–41</p>	
<b>Monday, 5/6/19</b>	<p>Speaker: Alan Lifson            Topic: Bioterrorism            Time: 2:30 PM-3:25 PM</p> <p>Speaker: Alan Lifson            Topic: Social Determinants of Infectious Disease            Time: 3:30 PM-3:25 PM</p>	<p>Additional readings to be assigned</p>	<p><b>ASSIGNMENT 6 DUE</b></p>

## SPH AND UNIVERSITY POLICIES & RESOURCES

The School of Public Health maintains up-to-date information about resources available to students, as well as formal course policies, on our website at [www.sph.umn.edu/student-policies/](http://www.sph.umn.edu/student-policies/). Students are expected to read and understand all policy information available at this link and are encouraged to make use of the resources available.

The University of Minnesota has official policies, including but not limited to the following:

- Grade definitions
- Scholastic dishonesty
- Makeup work for legitimate absences
- Student conduct code
- Sexual harassment, sexual assault, stalking and relationship violence
- Equity, diversity, equal employment opportunity, and affirmative action
- Disability services
- Academic freedom and responsibility

Resources available for students include:

- Confidential mental health services
- Disability accommodations
- Housing and financial instability resources
- Technology help
- Academic support

## EVALUATION & GRADING

Below is a list of the activities by which you will be graded and their assigned weights:

<b>Activity</b>	<b>Date due</b>	<b>Percent of grade</b>
Assignment 1	April 1	14%
Assignment 2	April 8	14%
Assignment 3	April 15	14%
Assignment 4	April 22	14%
Assignment 5	April 29	14%
Assignment 6	May 6	14%
Participation		16%

**Grading Scale**

The University uses plus and minus grading on a 4.000 cumulative grade point scale in accordance with the following, and you can expect the grade lines to be drawn as follows:

<b>% In Class</b>	<b>Grade</b>	<b>GPA</b>
93 - 100%	A	4.000
90 - 92%	A-	3.667
87 - 89%	B+	3.333
83 - 86%	B	3.000
80 - 82%	B-	2.667
77 - 79%	C+	2.333
73 - 76%	C	2.000
70 - 72%	C-	1.667
67 - 69%	D+	1.333
63 - 66%	D	1.000
< 62%	F	

- A = achievement that is outstanding relative to the level necessary to meet course requirements.
- B = achievement that is significantly above the level necessary to meet course requirements.
- C = achievement that meets the course requirements in every respect.
- D = achievement that is worthy of credit even though it fails to meet fully the course requirements.
- F = failure because 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 (Incomplete).
- S = achievement that is satisfactory, which is equivalent to a C- or better
- N = achievement that is not satisfactory and signifies that the work was either 1) completed but at a level that is not worthy of credit, or 2) not completed and there was no agreement between the instructor and student that the student would receive an I (Incomplete).

Evaluation/Grading Policy	Evaluation/Grading Policy Description
<p><b>Scholastic Dishonesty, Plagiarism, Cheating, etc.</b></p>	<p>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 (As defined in the Student Conduct Code). For additional information, please see <a href="https://z.umn.edu/dishonesty">https://z.umn.edu/dishonesty</a></p> <p>The Office for Student Conduct and Academic Integrity has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: <a href="https://z.umn.edu/integrity">https://z.umn.edu/integrity</a>.</p> <p>If you have additional questions, please clarify with your instructor. 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. Indiana University offers a clear description of plagiarism and an online quiz to check your understanding (<a href="http://z.umn.edu/iuplagiarism">http://z.umn.edu/iuplagiarism</a>).</p>
<p><b>Assignments</b></p>	<p>Assignments are take-home exercises on questions that require your thoughtful response to a public health problem or challenge related to infectious diseases. Responses should be based on applying the principles of infectious disease epidemiology to this specific situation. In some cases, there is not a single right answer, and it is important that respondents justify whatever answer they come up with. This assignment is open book. You are free to use your class notes and reading from the class. However, this take-home assignment is a solitary exercise, so each student should do their own work.</p> <p>Assignments are due in class on the due date indicated in the syllabus. In fairness to those who have turned in their papers on time, late papers will be penalized (1 point/ day out of 10 total). We hope students will find this an interesting exercise that will stretch their thinking a bit.</p> <p>Assignments are handed out at the end of class, and also posted to the class web site. Students should take time to make sure that their papers are well organized and written; written communication is important in public health.</p>
<p><b>Attendance Requirements</b></p>	<p>A sign-up sheet will be circulated each class, and will be counted as part of the student's overall grade in terms of participation. This reflects the core belief that coming to and participating in class is an essential part of the learning process. In addition, all of the instructors for this class typically devote considerable time and effort towards their lectures (often completely revising them each year), and having all students present for their talks is an indication of respect for their efforts in supporting student education.</p>
<p><b>Course Evaluation</b></p>	<p>The SPH will collect student course evaluations electronically using a software system called CourseEval: <a href="http://www.sph.umn.edu/courseeval">www.sph.umn.edu/courseeval</a>. 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: <a href="http://www.sph.umn.edu/grades">www.sph.umn.edu/grades</a>. 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.</p>

<b>Incomplete Contracts</b>	<p>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.</p> <p>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: <a href="http://www.sph.umn.edu/grades">www.sph.umn.edu/grades</a>.</p>
<b>Grade Option Change</b> (if applicable)	<p>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 <a href="http://onestop.umn.edu">onestop.umn.edu</a>.</p>
<b>Course Withdrawal</b>	<p>Students should refer to the Refund and Drop/Add Deadlines for the particular term at <a href="http://onestop.umn.edu">onestop.umn.edu</a> 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 <a href="mailto:sph-ssc@umn.edu">sph-ssc@umn.edu</a> for further information.</p>
<b>Makeup Work for Legitimate Absences</b>	<p>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: <a href="http://policy.umn.edu/Policies/Education/Education/MAKEUPWORK.html">http://policy.umn.edu/Policies/Education/Education/MAKEUPWORK.html</a>.</p>

*"Sometimes you can get shown the light in the strangest of places if you look at it right" J. Garcia, R. Hunter*