School of Public Health
Syllabus and Course Information

UNIVERSITY OF MINNESOTA
Driven to Discover℠

PubH 6390, sec. 002
Screening for disease: methods, practice, controversies
Fall 2016

Credits:	**2**
Meeting Days:	**Wednesday**
Meeting Time:	**9:05 – 11:00**
Meeting Place:	**Mayo 1250**
Instructor:	**DeAnn Lazovich, Ph.D.**
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I. Course Description

The earliest concept of screening for disease arose in the early 1900's with the advent of x-rays, which allowed, literally, for viewing lungs on a "screen". The rise of screening has also been attributed to public health approaches that were employed to "screen" out pollutants from water or to protect from vector-borne diseases. The earliest application of x-rays was to identify tuberculosis. Use of x-rays for tuberculosis led to realization that the technology allowed for the early diagnosis of latent tuberculosis, thereby offering the opportunity for treatment and control of its spread in the population. Another early application of screening was to determine the mental health suitability of army recruits in World War I.

Since the World War II era, screening for disease has become a routine part of medical care. Thirty-six of the 55 U.S. Preventive Services Task Force evidence-based recommendations with an A or B grade are for screening in areas such as cancer, pregnancy, cardiovascular disease, mental health, and obesity, among others. Despite the U.S. Preventive Services Task Force imprimatur on screening recommendations, routine screening is complicated not only by conflicting evidence of its efficacy, leading to disagreement among professional medical societies, but also by increasing recognition of potential physical and psychological harms that may outweigh benefits. In addition, social, economic and political forces shape screening application and policy decisions, such as whether or not to provide insurance coverage for screening tests. For example, the 2009 U.S. Preventive Task Force recommendations to change the age at which to begin and frequency of mammography for breast cancer led to a public outcry. Advocacy groups and professional medical societies opposed to the changes lobbied

Congress to keep the old recommendations. They claimed the revised recommendations would result in unnecessary deaths. However, it should be noted that reducing mammography frequency and narrowing the age range for women to be screened would also likely reduce reimbursement for clinical screening services.

The aim of this course, then, is to provide a comprehensive overview of screening methods and evaluation, and to examine the efficacy, benefits versus harms, population uptake, screening promotion, and controversies surrounding specific screening tests for various health conditions. These include, but are not limited to, cancer, cardiovascular disease, infectious disease, mental health and newborn metabolic and genetic defects. Such controversies can range from overdiagnosis and unnecessary treatment, informed decision-making, screening policies, and ethical issues. The course is designed to appeal to students in Public Health, Nursing, Pharmacy, Medicine, genetic counseling and public policy.

II. Course Prerequisites

Graduate or professional student in the Academic Health Center; completion of a course on epidemiologic, biostatistics or research methods; or by permission of instructor.

III. Course Goals and Objectives

At the conclusion of this course, the student will be able to:

1. Know the criteria for when screening is appropriate and what constitutes a suitable screening test; be able to define and/or calculate measures of screening accuracy, receiver operator curves, quality-adjusted life years, number needed to screen, etc;
2. Recognize different epidemiologic study designs used to determine screening efficacy, identify biases that may affect interpretation of study results, describe strengths and weaknesses of each study design;
3. Interpret trends in screening health outcomes in relation to population level screening;
4. Name key organizations responsible for making screening recommendations and identify the challenges in reaching consensus for screening guidelines;
5. Describe barriers, facilitators and strategies for screening uptake at the individual and health system levels;
6. Understand the use of decision models to determine the effectiveness and cost-effectiveness of screening; and
7. Summarize the evidence on screening for specific diseases, weigh the benefits versus harms, and identify related controversies.

IV. Methods of Instruction and Work Expectations

Class sessions will consist of lectures by either the instructor and/or guest faculty and class discussion of the readings and/or in-class activities. At the conclusion of each lecture, students will submit a 1-minute paper, consisting of one concept learned and one question remaining from the day's lecture(s). For some lectures, described in the Course Outline, students will be assigned in a group to serve as the discussant panel following the guest lecture.

V. Course Text and Readings

Note: Morrison, AS. Screening in Chronic Disease, 2nd edition. New York: Oxford University Press, 1992, is an excellent text on screening methods. You will be able to purchase Chapters 2 and 3 from the copy center in Coffman Union. If you are interested in additional chapters, I am happy to loan you my copy.

Otherwise, assigned readings are listed under Course Outline/Weekly Schedule.

VI. Course Outline/Weekly Schedule

The presentation of course material is divided into three parts: Methods, Practice, and Controversies.

Methods

September 7	**Speaker(s):**	**Topic:**
Lecture	**Instructor**	**Epidemiologic concepts of screening for disease: natural history of disease, lead time, sensitivity**
Class activity	**We will review and discuss our own personal screening recommendations. Please come to class with this widget for primary care clinicians downloaded to your laptop or phone:** **http://www.uspreventiveservicestaskforce.org/Page/Name/tools-and-resources-for-better-preventive-care** **Also read and be prepared to discuss:** • Chapman AL. The concept of multiphasic screening: Public Health Reports 1949;64:1311-1314 • --. Multiphasic screening. Am J Pub Health 1950;40:324-325 • Breslow L. Multiphasic screening in California. J Chronic Dis 1955;2:375-383	
Required readings: • Chapter 16: Screening in Public Health Practice in Aschengrau A and Seage GR, Essentials of Epidemiology in Public Health, 2nd edition • Morrison AS: Screening in Chronic Disease, 2nd edition: Chapter 2, The Natural History of Disease in Relation to Measures of Disease Frequency (just skim page 30) • Morrison AS: Screening in Chronic Disease, 2nd edition: Chapter 3, Early Detection: Sensitivity and Lead Time (just skim pps: 53-55, 57-60, 63-73)		

September 14	**Speaker(s):**	**Topic:**
Lecture	**Tim Church, Ph.D.**	**Randomized controlled trials of screening efficacy**
Class Activity	To be determined by Dr. Church	
Required readings: • Miller AB. Design of cancer screening trials/randomized trials for evaluation of cancer screening. World J Surg 2006;30:1152-1162 • Prorok PC. Epidemiologic approach for cancer screening. Problems in design and analysis of trials. Am J Ped Hem/Onc 1992;14:117-28. • Schroeder FH, Hugosson J, Roobol MJ, Tammela TLJ, Ciatto S, Nelen V, et al. Screening and prostate cancer mortality in a randomized European Study. N Eng J Med 2009;360:1320-8 • Andriole GL, Grubb RL, Buys SS, Chia D, Church TR, Fouad MN, et al. Mortality results from a randomized prostate cancer screening trial. N Engl J Med 2009;360:1310-9		

September 21	**Speaker(s):**	**Topic:**
Lecture	**Instructor**	**Observational studies of screening efficacy**
Class activity		

Required readings:

- Morrison AS. Case definitions in case-control studies of the efficacy of screening. Am J Epidemiol 1982;115:6-8.
- Weiss NS. Control definition in case-control studies of the efficacy of screening and diagnostic testing. Am J Epidmiol 1983;118:457-460.
- Weiss NS, McKnight B, Stevens NG. Approaches to the analysis of case-control studies of the efficacy of screening for cancer. Am J Epidemiol 1992;135:817-23.
- Weiss NS, Bodelon C. Interview-based case-control studies of screening efficacy. *Epidemiology* 2008;19:265-7.
- Weiss NS. Cohort studies of the efficacy of screening for cancer. Epidemiology 2015;26:362-364

September 28	**Speaker(s):**	**Topic:**
Lecture	**Karen Kuntz, Sc.D.**	**Primer on use of decision models for evaluating screening**
Class Activity	Build a decision model.	

Required readings:

- Habbema JD, Wilt TJ, Etzioni R, Nelson HD, Schechter CB, Lawrence WF, Melnikow J, Kuntz KM, Owens DK, Feuer EJ. Models in the development of clinical practice guidelines. Ann Intern Med 2014;161:812-8.
- Etzioni R, Gulati R, Cooperberg MR, Penson DM, Weiss NS, Thompson IM. Limitations of basing screening policies on screening trials: The U.S. Preventive services Task Force and prostate cancer screening. *Med Care* 2013;51:295-300.
- Zauber AG, Landsorp-Vogelaar I, Knudsen AB, Wilshut J, Van Ballegooijen M, Kuntz KM. Evaluating test strategies for colorectal cancer screening: a decision analysis for the U.S. Preventive Services Task Force. Ann Intern Med 2008;149:659-69.

Practice

October 5	**Speaker(s):**	**Topic:**
Lecture I	**Tim Wilt, M.D., M.P.H.**	**The U.S. Preventive Services Task Force**
Lecture 2	**Instructor**	**Framework for screening practice, trends**
Class activity	**Read the following articles and be prepared to compare, contrast and answer questions in small discussion groups:** • Moyer VA, U.S. Preventive Services Task Force. Screening for prostate cancer: U.S. Preventive Services Task Force recommendation statement. Ann Intern Med 2012;157:120-34 • American Urological Association Guideline. Early detection of Prostate Cancer. https://www.auanet.org/education/guidelines/prostate-cancer-detection.cfm • Carlsson S, Vickers AM, Roobol M, Eastham J, Scardino P, Lilja H, Hugosson J. Prostate cancer screening: facts, statistics and interpretation in response to the US Preventive Services Task Force Review. J Clin Oncol 2012;30:2581-2584.	

Required readings:

- U.S. Preventive Services Task Force Standards for Guideline Development.pdf
- Guirguis-Blake J, Calonge N, Miller t, Siu A, Teutsch S, Whitlock E, US Preventive Services Task Force. Current processes of the U.S. Preventive Services Task force: refining evidence-based recommendation development. Ann Intern Med 2007;147:117-122.

- Brawley O, Byers T, Chen A, Pignone M, Ransohoff D, Schenk M, Smith R, Sox H, Thorson AG, Wender R. New American Cancer Society process for creating trustworthy cancer screening guidelines. JAMA 2011;306:2495-2499.
- Wilt TJ, Harris RP, Qaseem A; High Value Care Task Force of the American College of Physicians. Screening for cancer: advice for high-value care from the American College of Physicians. Ann Intern Med 2015;162:718-25.
- Harris RP, Wilt TJ, Qaseem A; High Value Care Task Force of the American College of Physicians. Ann Intern Med 2015;162:712-7

October 12	**Speaker(s):**	**Topic:**
Lecture I	**Instructor**	**Screening harms versus benefits**
Lecture 2	**Melissa Partin, Ph.D.**	**Informed decision making**
In-class activity	Prior to class, read the following two papers. You will be asked to consider the patient and physician's point of view, and debate the pros and cons of their position. Readings: • Aschwanden C. Why I'm opting out of mammography. JAMA Intern Med 2015; 175:164-5. • Kaplan HG, Malmgren JA. The breast cancer overdiagnosis conundrum: an oncologist's viewpoint. Ann Intern Med 2013;158:60-61.	

Required readings:

- Welch HG, Black WC. Overdiagnosis in cancer. JNCI 2010;102:605-13.
- DeFrank JT, Barclay C, Sheridan S, Brewer NT, Gilliam M, Moon AM, Rearick W, Ziemer c, harris R. The psychological harms of screening: the evidence we have versus the evidence we need. J Gen Intern Med 2015;30:242-8.
- Carter J, Coletti RJ, Harris RP. Quantifying and monitoring overdiagnosis in cancer screening: a systematic review of methods. BMJ 2015; 350:g7773.
- Hoffmann TC, Del Mar C. Patients' expectations of the benefits and harms of treatments, screening, and tests: a systematic review. JAMA Intern Med 2015;175:274-286.
- Hoffman RM, Elmore JG, Fairfield KM, Gerstien BS, Levin CA, Pignone MP. Lack of shared decision making in cancer screening discussions: results from a national survey. Am J Prev Med 2014; 47:251-59.
- Pignone MP, Howard K, Brenner AT, Crutchfield TM, Hawley ST, Lewis CL, Sheridan SL. Comparing 3 techniques for eliciting patient values for decision making about prostate specific antigen screening: a randomized controlled trial. JAMA Int Med 2013;173:362-8.
- Stefanek ME. Uninformed compliance or informed choice? A needed shift in our approach to cancer screening. JNCI 2011;103:1-6.

October 19	**Speaker(s):**	**Topic:**
Lecture 1	**Rebekah Nagler, Ph.D.**	**Communication about screening**
Lecture 2	**Instructor**	**Interventions for screening**

Required readings (need to shorten):

- Evans WD, Lantz PM, Mead K, Alvarez C, Snider J. Adherence to clinical preventive services guidelines: population-based online randomized trial. SSM-Pop Health 2015; 1:48-55.
- Powell AA, Bloomfield HE, Burgess DJ, Wilt TJ, Partin MR. A conceptual framework for understanding and reducing overuse by primary care providers. Med Care Res Rev 2013;70:451-72.

- Baron RC, Rimer BK, Breslow RA, Coates RJ, Kerner J, Melillo S, et al. Client-directed interventions to increase community demand for breast, cervical and colorectal cancer screening: a systematic review. Am J Prev Med 2008; 35 (1 Suppl):S34-55.
- Sabatino SA, Habarta N, Baron RC, Coates RJ, Rimer BK, Kerner J, et al. Interventions to increase recommendation and delivery of screening for breast, cervical, and colorectal cancers by healthcare providers systematic reviews of provider assessment and feedback and provider incentives. Am J Prev Med 2008; 35 (1 Suppl): S67-74.
- Baron RC, Rimer BK, Coates RJ, Kerner J, Kalra GP, Melillo S, et al. Client-directed interventions to increase community access to breast, cervical and colorectal cancer screening: a systematic review. Am J Prev Med 2008; 35 (1 Suppl): S56-66.
- Nagler RK, Fowler EF, Gollust SE. Covering controversy: what are the implications for women's health? Women's Health Issues 2015; 25:318-21.
- Nagler RK, Lueck JA, Gray LS. Awareness of and reactions to mammography controversy among immigrant women. Health Expectations 2016; in press
- Weeks BE, Friedenberg L, Southwell BG, Slater JS. Behavioral consequences of conflict-oriented health news coverage: the 2009 mammography guideline controversy and online information seeking. Health Communication 2012; 27(2):158-166.

October 26	**Speaker(s):**	**Topic:**
Lecture	**Instructor**	**Inequities in screening**
Panel	**Shelley Madigan** **Charles Rogers** **TBD**	**Screening the under-insured** **Screening among African American men**

Required readings:

- http://mncm.org/wp-content/uploads/2015/01/2014-MN-Community-Measurement-Health-Equity-of-Care-Report.pdf
- Grubbs S, Polite BN, Carney Jr J, Bowser W, Rogers J,Katurakes N, Hess P, Paskett ED. Eliminating racial disparities in colorectal cancer in the real world: it took a village. J Clin Oncol 2013; 31:1928-30.
- Abraido-Lanza AF, Chao MT, Gates CY. Acculturation and cancer screening among Latinas: results from the National Health Interview Survey. Ann Behav Med 2005;29:22-8.
- **More papers to be added…**

Controversies

NOTE: During this section of the semester, guest lecturers will present for about an hour. The remainder of the time will be used to engage students in active learning exercises developed by the instructor around new public health core competencies, such analytical and assessment skills, policy development and program planning, communication, cultural competency, community engagement, leadership and systems thinking.

November 2	**Speaker(s):**	**Topic:**
Lecture (9:05)	**Russell Luepker, M.D, M.S.**	**Screening for cardiovascular disease**
Class activity	Bring three talking points from the class readings for discussion.	

Required readings:

- http://www.heart.org/HEARTORG/Conditions/Heart-Health-Screenings_UCM_428687_Article.jsp
- del Sol AI, Moons KGM, Hollander M, et al. Is carotid intima-media thickness useful in cardiovascular disase risk assessment? The Rotterdam study. Stroke 2001;32:1532-38.
- ACCF/AHA 2007 Clinical expert consensus document on coronary artery calcium scoring by computed tomography in global cardiovascular risk assessment. Circulation 2007; 115:402-26.

- Alahdab F, Wang AT, Elraiyah TA, et al. A systematic review for the screening for peripheral arterial disease in asymptomatic patients. J Vasc Surg 2015; 61:42S-53S.
- Maron BJ. Historical perspectives on sudden deaths in young athletes with evolution over 35 years. Am J Cardiology 2015; 116:1461-68.
- Riebe D, Franklin BA, Thompson PD, et al. Updating ACSM's recommendations for exercise pre-participation health screening. Med Sci Sports Exerc 2015; 47:2473-79.
- Freedman B, Lowres N. Asymptomatic atrial fibrillation: the case for screening to prevent stroke. JAMA 2015; 314:1911-2.

November 9	**Speaker(s):**	**Topic:**
Lecture	**Alan Lifson, M.D., M.P.H.**	**Screening for HIV**
Class activity	Bring three talking points from the class readings for discussion.	

Required readings:

- Centers for Disease Control and Prevention and Association of Public Health Laboratories. Laboratory Testing for the Diagnosis of HIV Infection: Updated Recommendations. Available at http://stacks.cdc.gov/view/cdc/23447. Published June 27, 2014.
- Centers for Disease Control and Prevention. Revised recommendations for HIV testing of adults, adolescents, and pregnant women in health-care settings. MMWR 2006; 55 (No. RR-14).
- Lifson AR, Demisse W, Ketema K, Tadesse A, May R, Yakob B, et al. Failure to test for HIV in rural Ethiopia: knowledge and belief correlates and implications for universal test and treat strategies. J Internl Assoc Provid AIDS Care 2013; 12:306-11.
- Suthar AB, Ford N, Bachans PJ, Wong VJ, Rajan JS, Saltzman AK, et al. Towards universal voluntary HIV testing and counseling: a systematic review and meta-analysis of community-based approaches. PloS Med 2013;10:e1001496.

November 16	**Speaker(s):**	**Topic:**
Lecture	**Susan Berry, M.D.**	**Newborn screening**
Class activity	Bring three talking points from the class readings for discussion.	

Required readings:

- American College of Medical Genetics Newborn Screening, Expert Group. Newborn screening: Toward a uniform screening panel and system--executive summary. *Pediatrics.* 2006 05/01; 117(5): S296-307.
- Feuchtbaum L, Faulkner L, Verghese S. Tandem mass spectrometry program implementation challenges for state newborn screening programs: National survey of barriers and issues. *Pediatrics.* 2006 05/01; 117(5): S253-60.
- Hinton CF, Feuchtbaum L, Kus CA, Kemper AR, Berry S, Levy-Fisch J, Luedtke J, Kaye C, Boyle CA. What questions should newborn screening long-term follow-up be able to answer? A statement of the US secretary for health and human services' advisory committee on heritable disorders in newborns and children. *Genet Med.* 2011 10/01; 13(10): 861-5.
- Miller FA, Hayeems RZ, Bombard Y, Cressman C, Barg CJ, Carroll JC, Wilson BJ, Little J, Allanson J, Chakraborty P, Giguere Y, Regier DA Public perceptions of benefits and risks of newborn screening. Pediatrics 2015;136:e413-23.
- Advisory Committee on Heritable Disorders in Newborns and Children: http://www.hrsa.gov/advisorycommittees/mchbadvisory/heritabledisorders/
- Newborn Screening Program: Minnesota Department of Health: http://www.health.state.mn.us/newbornscreening/
- Bayefsky MJ, Saylor KW, Berkman BE. Parental consent for the use of residual newborn screening bloodspots: respecting individual liberty vs ensuring public health. JAMA 2015; 314: 31-2.

November 23	Speaker(s):	Topic:
Lecture	**TBD**	**Screening for diabetes (Type I, II, gestational--tbd)**
Class activity	Bring three talking points from the class readings for discussion.	

Required readings:

- Standards of Medical Care in Diabetes--2015. Diab Care, 2015; 38, Supplement 1, S1 - S30.
- Davidson MB, Pan D. Epidemiologic ramifications of diagnosing diabetes with HbA1C levels. J Diab Compli 2014; 28:464-9.
- de Graaf G, Postmus D, Bakker SJ, Buskens E. Design of stepwise screening for prediabetes and type 2 diabetes based on costs and cases detected. J Clin Epidemiol 2015; 68:1010-8.
- Chung S, Azar KM, Baek M, Lauderdale DS, Palaniappan LP. Reconsidering the age thresholds for type II diabetes screening in the U.S. Am J Prev Med 2014; 47:375-81.
- Simmons RK, Echouffo-Tcheugui JB, Sharp SJ, Sargeant LA, Williams KM, Prevost AT, et al. Screening for diabetes and population mortality over 10 years (ADDITION-Cambridge): a cluster-randomized controlled trial. Lancet 2012; 380:1741-8.
- Nichols GA, Schoeder EB, Karter AJ, Desai J, Lawrence JM, O'Connor PJ, et al. Trends in diabetes incidence among 7 million insured adults, 2006-2011: the SUPREME-DM Project; Am J Epidemiol 2015; 181:32-9
- Ferdinand KC, Nasser SA. Racial/ethnic disparities in prevalence and care of patients with Type 2 diabetes mellitus. Curr Med Res Opinion 2015; 31:913-23.

November 30	Speaker(s):	Topic:
Lecture	**Shalini Kulasingam, Ph.D.**	**Prevention, Early Detection or Both? Cervical cancer screening in the age of HPV vaccination**
Class activity	Bring three talking points from the class readings for discussion.	

Required readings:

- Sawaya GF, Kulasingam S, Denberg TD, Qaseem A, Clinical Guidelines Committee of American College of Physicians. Cervical cancer screening in average-risk women: best practice advice from the Clinical Guidelines Committee of the American College of Physicians. Ann Intern Med 2015;162:851-9.
- Kulasingam SL, Rajan R, St. Pierre Y, Atwood CV, Myers ER, Franco EL. Human papillomavirus testing with Pap triage for cervical cancer prevention in Canada: a cost-effectiveness analysis. BMC Med 2009;7:69
- Schiffman M, Castle PE, Jeronimo J, Rodriguez A, Wacholder S. Human papillomavirus and cervical cancer. Lancet 2007; 370:890-907.
- Massad LS, Einstein M, Myers E, Wheeler CM, Wentzensen N, Solomon D. The impact of human papillomavirus vaccination on cervical cancer prevention efforts. Gyn Onc 2009;114:360-4.
- Perkins RB. Stier EA. Should U.S. women be screened for cervical cancer with pap tests, HPV tests, or both? Ann Intern Med 2014; 295-97.

December 7	Student Presentations

December 14	Student Presentations

VII. Evaluation and Grading

Written Assignment:

Students will prepare a paper on a screening-related topic that is not covered in class. Students may choose from among the topics listed below; other topics will be considered upon approval of the instructor. The requirements for the papers will vary depending on whether the student chooses an epidemiologic or behavioral approach to the paper.

This checklist from Wald and Cuckle may be helpful to you in preparing your written assignments.

First assignment (epidemiologic or behavioral approach): **Due October 3**

- Review the prevalence of the condition, test characteristics of the screening test, uptake of the screening test in the population, and screening guidelines. Note if different organizations issue conflicting guidelines (3-5 pages, double spaced, 12 point font).

Second assignment: **Due October 31**

- Epidemiologic approach: Review efficacy of specific screening test, including a discussion of strengths and weaknesses of the evidence to date.
- Behavioral approach: Briefly note evidence for or against screening, but the primary purpose is to identify interventional approaches that have been assessed to increase (or decrease) use of the selected screening test. Indicate which approaches have the most likelihood of success. (5-10 pages, double spaced, 12 point font)

Third assignment (epidemiologic or behavioral): **Due November 28**

- Review gaps and controversies for specific screening test or its application in the population. Identify opportunities for future research. (3-5 pages, double spaced, 12-point font)

Suggested topics for written assignment/presentations:

Screening for melanoma
Screening for ovarian cancer
Screening for oral cancer
Screening for Hepatitis B/C
Screening for osteoporosis
Screening for tuberculosis
Screening for obesity
Genetic screening
Screening for sexually transmitted diseases
Screening for hearing and vision (among children, among elderly)
Screening for cognition among elderly
Screening during pregnancy
Screening for mental health conditions (e.g., depression, PTSD)
Screening for autism spectrum disorder
Screening interventions
Screening in special populations (refugees, disabled, race/ethnicity, socioeconomic status)
Screening in developing countries
Other, with approval of instructor

Presentations: December 7 and 14

- Students will prepare a presentation that reflects the content of their completed written assignments. These presentations will serve to expand the list of screening topics covered in this class. The length of the presentation will be determined at the beginning of class, according to enrollment size.

Final assignment: Due Friday, December 16

- Students will prepare a 1-page fact sheet that summarizes their written assignments for their selected screening test but in language suitable for the lay public.

Class participation:

Class participation is paramount to the success of this course. To that end, students will come to class having read the assigned readings, and will be prepared to engage in the planned class activity.

Percent of grade:

Written assignments:	20% each, for a total of 60% of earned grade
Fact Sheet:	15%
Presentations:	15%
Class participation:	10%: 8% total for attending each class, and participating in class discussion and activities; 2% for submitting a 1-minute paper at the conclusion of each class. These percentage points can only be earned if the student attends class; points earned will be pro-rated according to the number of classes attended and the number of 1-minute papers submitted.
Extra credit options:	2% (pro-rated), complete the weekly lecture evaluation.

Grades

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 B- 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 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. Disability Services (DS) 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 DS at 612-626-1333 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 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, or the Vice Provost for Faculty and Academic Affairs in the Office of the Provost.

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* 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.

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