

PUBH 6386

Cardiovascular Disease Epidemiology and Prevention

Spring 2021

COURSE & CONTACT INFORMATION

Credits: 2
Meeting Day: Tuesdays
Meeting Time: 1:25-3:20 pm
Meeting Place: Zoom: <https://umn.zoom.us/j/99911212884>

Instructor: Pamela L. Lutsey, PhD
Email: lutsey@umn.edu
Office Phone: 612-624-5812
Fax: 612-624-0315
Office Hours: Immediately after class or by appointment on Zoom
Office Location: Room 451 WBOB

COURSE DESCRIPTION

PubH 6386 is a graduate level course offered by the Division of Epidemiology & Community Health on the epidemiology and public health approaches to prevention of cardiovascular disease (CVD).

COURSE PREREQUISITES

Prior to enrolling in PubH 6386, students should have completed at least one course in epidemiology and one in biostatistics or statistics. If you do not meet these prerequisites, please see Dr. Lutsey.

COURSE GOALS & OBJECTIVES

The course will provide an introduction to CVD epidemiology. It is intended to provide a detailed perspective on the well-established risk factors for CVD, as well as an introduction to emerging risk factors. Both observational studies and clinical trials will be discussed. The class will include a main focus on prevention of CVD, and

national recommendations for treatment and prevention. Several classes will incorporate discussions of new directions and current controversies in CVD epidemiology. Additionally, the class will introduce students to the CVD research in the Division of Epidemiology & Community Health.

METHODS OF INSTRUCTION AND WORK EXPECTATIONS

The course will include lectures, discussions, and assignments. PDF versions of most slides used by Dr. Lutsey are available on the course website prior to class. The course will be taught in a synchronous fashion, and participation (e.g., journal article discussions, breakout rooms) is required. Students will be evaluated as follows:

Assignments	50%
Class participation	10%
Paper	25%
Presentation	15%

Assignments are available for download via Canvas. There are 6 assignments, each worth 8% of your final grade. Additionally, you will be asked to complete a food frequency questionnaire and comment on your experience; this is worth 2% of your grade. Please turn in assignments via Canvas before class. Answers should be typed and concise. Late assignments will receive a small grading penalty.

For the **Paper** you will identify (with guidance) a novel CVD risk factor and discuss a) existing literature suggesting that this factor may be linked to CVD risk, and b) epidemiologic approaches you would use to further evaluate whether this exposure is actually a CVD risk factor. Additional instructions will be provided during Class 2.

For the **Presentation** you will present the information provided in your paper, and also answer questions about the topic. Additional instructions will be provided during Class 2.

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

There is no textbook for this course. Instead we will be using websites (e.g. AHA Statistical Update), journal articles, and textbook chapters. All materials are available for downloading via the Canvas course website.

The Canvas site contains:

- General course information
- PowerPoint versions of slides for class
- Word files of the Assignment for downloading
- A link to “Heart Disease and Stroke Statistics-2019 Update: A report from the American Heart Association”
- Links to PDF files of required articles identified on the syllabus. You need to have Acrobat Reader to view the articles. Acrobat Reader can be downloaded from <http://get.adobe.com/reader/>
- Links to the supplemental web page reports and readings listed on the syllabus

COURSE OUTLINE/WEEKLY SCHEDULE

Week	Topic	Readings/Videos/Websites	Activities/Assignments
Week 1 January 19	<ul style="list-style-type: none"> CVD Pathophysiology and Descriptive Epidemiology 	<ul style="list-style-type: none"> CVD Overview https://armandoh.org/video/cardiovascular-disease-overview/ Atherosclerosis https://armandoh.org/video/atherosclerosis-pathophysiology/ Stroke https://armandoh.org/video/anatomy-brain-circle-of-willis-and-stroke/ 	<ul style="list-style-type: none"> Watch CVD Pathophysiology Videos
Week 2 January 26	<ul style="list-style-type: none"> Introduction to CVD Studies and Risk Factors 	<ul style="list-style-type: none"> Global Epi of CVD, Harris, Chapter 2 Optional: Olson JL, etc. Legacy of MESA: Introduction and Perspective. Glob Heart 2016;11(3):269-274 Optional: Dr. Blackburn's History of CVD Epi Website:http://www.epi.umn.edu/cvdepi/index.html 	<ul style="list-style-type: none"> Assignment #1 due
Week 3 February 2	<ul style="list-style-type: none"> CVD health disparities Smoking (Guest lecture: Rachel Widome) 	<ul style="list-style-type: none"> Churchwell, AHA Structural Racism Call to Action: Circulation 2020 Kalkhoran, Prevention and Treatment of Tobacco Use: JACC 2018 Optional: Bhatnagar, AHA E-Cigarette Statement: Circulation 2014 	<ul style="list-style-type: none"> Assignment #2 due

Week 4 February 9	<ul style="list-style-type: none"> • Diet, Alcohol 	<ul style="list-style-type: none"> • Yu, Cardiovascular Disease Prevention by Diet Modification: JACC 2018 • Manson, n-3 Fatty Acids and CVD Prevention: NEJM 2018 • Bhatt, CVD Risk Reduction with Icosapent Ethyl: NEJM 2018 	<ul style="list-style-type: none"> • FFQ 2 point assignment due • Discussion of Manson and Bhatt articles; greater emphasis on the Manson article
Week 5 February 16	<ul style="list-style-type: none"> • Exercise, Weight 	<ul style="list-style-type: none"> • Fletcher, Promoting Physical Activity and Exercise: JACC 2018 • Lavie, Healthy Weight and Obesity Prevention: JACC 2018 • Optional: Piercy, Physical Activity Guidelines for Americans 	<ul style="list-style-type: none"> • Assignment #3 due
Week 6 February 23	<ul style="list-style-type: none"> • Blood pressure 	<ul style="list-style-type: none"> • Carey, Prevention and Control of Hypertension: JACC 2018 • He, Salt in CVD Prevention: Nature Reviews 2018 	<ul style="list-style-type: none"> • Discussion of He article
Week 7 March 2	<ul style="list-style-type: none"> • Diabetes 	<ul style="list-style-type: none"> • Schwarz, Blood Sugar Regulation for Cardiovascular Health Promotion and Disease Prevention: JACC 2018 • Estruch, PREDIMED: NEJM 2013 	<ul style="list-style-type: none"> • Discussion of Estruch article • Assignment #4 due
Week 8 March 9	<ul style="list-style-type: none"> • Lipids • Genetics 	<ul style="list-style-type: none"> • Ference, Impact of Lipids on Cardiovascular Health: JACC 2018 • Assimes, Genetics: Implications for CAD Prevention and Management: JACC 2016 	<ul style="list-style-type: none"> • None.
Week 9 March 16	<ul style="list-style-type: none"> • Novel risk factors, infection, psychosocial risk factors 	<ul style="list-style-type: none"> • Kubzansky, Positive Psychosocial Well-Being and Cardiovascular Disease: JACC 2018 • Libby, Inflammation, Immunity and Infection in Atherosclerosis: JACC 2018 	<ul style="list-style-type: none"> • None.

Week 10 March 23	<ul style="list-style-type: none"> • Presentation Day 1 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Paper due + present (50% class)
Week 11 March 30	<ul style="list-style-type: none"> • Presentation Day 2 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Paper due + present (50% class)
<u>SPRING BREAK</u>			
<u>April 6</u>	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • N/A
Week 12 April 13	<ul style="list-style-type: none"> • Global CVD epidemiology (Guest lecture: Carin Northuis) • Congenital heart defects (Guest lecture: Rachel Zmora) 	<ul style="list-style-type: none"> • None. 	<ul style="list-style-type: none"> • Assignment #5 due
Week 13 April 20	<ul style="list-style-type: none"> • Prevention I 	<ul style="list-style-type: none"> • Rose, Sick Individuals and Sick Populations: AJE 1985 • Wright, Million Hearts 2022: JAMA 2018 • Review Ask About Aspirin website http://askaboutaspirin.umn.edu/ 	<ul style="list-style-type: none"> • Discuss Rose and Wright articles, and ask about aspirin group-randomized trial
Week 14 April 27	<ul style="list-style-type: none"> • Prevention II 	<ul style="list-style-type: none"> • Munoz, Polypill in Underserved: NEJM 2019 • Roshandel, PolyIran: Lancet 2019 • Franco, Polymeal: BMJ 2004 • Vasan, The Future of CVD Epidemiology: Circulation 2016 	<ul style="list-style-type: none"> • Discuss the polypill, the polymeal, and the future of CVD epidemiology • Assignment #6 due

The following are all AHA Statements of potential interest:

- Havranek, AHA Social Determinants Statement: Circulation 2015
- McSweeney, Prevention in Women: Circulation 2016
- Steinberger, Prevention in Children: Circulation 2016
- Pearson, Improving CV Health at the Community Level: Circulation 2013
- Rodriguez, Status of CVD and Stroke in Hispanics, Latinos: Circulation 2014
- Carnethon, CV Health in African Americans: Circulation 2017
- Palaniappan, CV Disease in Asian Americans: Circulation 2010
- Volgman, CVD in South Asians: Circulation 2018
- Breathett, CVD in American Indians and Alaska Natives: Circulation 2020

Additional reading resources

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/. 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

Both S-N and A-F grading are available.

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:

<u>% In Class</u>	<u>Grade</u>	<u>GPA</u>	
93 - 100%	A	4.000	A = achievement that is outstanding relative to the level necessary to meet course requirements.
90 - 92%	A-	3.667	B = achievement that is significantly above the level necessary to meet course requirements.
87 - 89%	B+	3.333	
83 - 86%	B	3.000	C = achievement that meets the course requirements in every respect.
80 - 82%	B-	2.667	
77 - 79%	C+	2.333	D = achievement that is worthy of credit even though it fails to meet fully the course requirements.
73 - 76%	C	2.000	
70 - 72%	C-	1.667	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).
67 - 69%	D+	1.333	
63 - 66%	D	1.000	
< 62%	F		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
Scholastic Dishonesty, Plagiarism, Cheating, etc.	<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 https://z.umn.edu/dishonesty</p> <p>The Office for Student Conduct and Academic Integrity has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty: https://z.umn.edu/integrity.</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.</p> <p>Indiana University offers a clear description of plagiarism and an online quiz to check your understanding (http://z.umn.edu/iuplagiarism).</p>
Late Assignments	<p>Assignments will be docked 10% if they are not submitted prior to the start of class, and 20% for each additional day late. Exceptions will be made for extenuating circumstances.</p>
Attendance Requirements	<p>Attendance is expected. Please inform Dr. Lutsey planned absences in advance. For unplanned absences, please alert Dr. Lutsey when feasible.</p>

<p>Makeup Work for Legitimate Reasons</p>	<p>If you experience an extraordinary event that prevents you from completing coursework on time and you would like to make arrangements to make up your work, contact your instructor within 24 hours of the missed deadline if an event could not have been anticipated and at least 48 hours prior if it is anticipated.</p> <p>University policy recognizes that there are a variety of legitimate circumstances in which students will miss coursework, and that accommodations for makeup work will be made. This policy applies to all course requirements, including any final examination. Students are responsible for planning their schedules to avoid excessive conflicts with course requirements.</p> <ol style="list-style-type: none"> 1. Instructors may not penalize students for absence during the academic term due to the following unavoidable or legitimate circumstances: illness, physical or mental, of the student or a student's dependent; medical conditions related to pregnancy; participation in intercollegiate athletic events; subpoenas; jury duty; military service; bereavement, including travel related to bereavement; religious observances; participation in formal University system governance, including the University Senate, Student Senate, and Board of Regents meetings, by students selected as representatives to those bodies; and activities sponsored by the University if identified by the senior academic officer for the campus or the officer's designee as the basis for excused absences. 2. Voting in a regional, state, or national election is not an unavoidable or legitimate absence. 3. Instructors are expected to accommodate students who wish to participate in party caucuses, pursuant to Board of Regents resolution (see December 2005 Board of Regents Minutes, p 147.) 4. For circumstances not listed in (1), the instructor has primary responsibility to decide on a case-by-case basis if an absence is due to unavoidable or legitimate circumstances and grant a request for makeup work. <p>Because this course is entirely online and all materials are available to students from the first day of the term, we expect students to plan accordingly if travels or access to internet will cause them to miss a deadline. Note that our deadlines are generally set for 11:55 p.m. CST, so traveling to a different time zone will require additional planning. Further, circumstances that qualify for making up missed work will be handled by the instructor on a case-by-case basis; they will always be considered but not always granted. For complete information, view the U of M's policy on Makeup Work for Legitimate Absences (https://policy.umn.edu/education/makeupwork).</p>
<p>Extra Credit</p>	<p>None</p>
<p>Saving & Submitting Coursework</p>	<p>Documents that students submit are considered final; students may not submit more than one version or draft of each assignment.</p>
<p>Technical Issues with Course Materials</p>	<p>You are expected to submit all coursework on time and it is your responsibility to ensure that your work is submitted properly before the deadline.</p> <p>If you experience technical difficulties while navigating through the course site or attempting to submit coursework:</p> <ul style="list-style-type: none"> • Go to Quick Help: http://z.umn.edu/sphquickhelp. • Connect with the appropriate person or office within 30 minutes of the problem's occurrence. <ul style="list-style-type: none"> ○ Provide as much information as possible, so the tech team can best help you as soon as possible. <p>You can expect a response within 1-2 business days to help resolve the problem.</p>

Helping All Students Succeed

We want to help all students succeed in this course. If you have an accommodations letter from the [Disability Resource Center](#), we strongly recommend that you email the letter directly to your instructor as soon as possible, so any accommodations you might need will be in place from the start of the term. In addition to the letter, please include any questions you might have.

You may email your Disability Resource Center letter to your instructor at any point in the term, but we cannot guarantee retroactive accommodations.

Students may also have sporadic or acute situations that arise during the semester that impair their ability to attend class and/or complete all assignments on time. It is important that you contact your instructor as soon as you can so that they can help you to set up a modified schedule and obtain help where needed.