PUBH 6386

Cardiovascular Disease Epidemiology and Prevention
Spring 2019

COURSE & CONTACT INFORMATION

Credits: 2
Meeting Day: Tuesdays
Meeting Time: 1:25-3:20 pm
Meeting Place: Weaver-Densford Hall 2-110 for all dates except for January 29. On January 29 class will be held in MoosT 1-451

Instructor: Pamela L. Lutsey, PhD
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Office Hours: Immediately after class or by appointment in WBOB (West Bank Office Building)
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.

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

METHODS OF INSTRUCTION AND WORK EXPECTATIONS

The course will include lectures, discussions, and homework. PDF versions of most slides used by Dr. Lutsey are available on the course website prior to class. Class participation is required. Students will be evaluated as follows:

Homework	48%
Class participation	12%
Paper	25%
Presentation	15%

Homework is available for download via Moodle. There are 6 homeworks in total, each worth 8% of your final grade. Please turn in homework via Moodle before class. Answers should be typed and concise. Late homework 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 evaluate whether this exposure is actually a CVD risk factor. Additional instructions will be provided during Class 3.

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 3.

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 Moodle course website.

The Moodle site contains:

- General course information.

- PowerPoint versions of slides for class.

- Word files of the homework for downloading.

- A link to the "Heart Disease and Stroke Statistics – 2018 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	Activities/Assignments
Week 1 January 22	• CVD Spectrum and Descriptive Epidemiology (guest lecture: Dr. Aaron Folsom)	• Labarthe, Chapter 1 • Optional: Minnesota CVD info Minnesota CVD info http://www.health.state.mn.us/heartstroke	• None
Week 2 January 29	• Introduction to CVD studies and risk factors	• Labarthe, Chapter 2 • Olson, Legacy of MESA: Glob Heart 2016 • Optional: Bild, MESA Design: AJE 2002 • Optional: Dr. Blackburn's history of CVD Epi Website http://www.epi.umn.edu/cvdepi/index.html	• Homework #1 due
Week 3 February 3	• Diet, Alcohol	• 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	• Discussion of Manson and Bhatt articles; greater emphasis on the Manson article
Week 4 February 12	• Exercise, Weight	• Fletcher, Promoting Physical Activity and Exercise: JACC 2018 • Lavie, Healthy Weight and Obesity Prevention: JACC 2018 • Optional: Piercy, Physical Activity Guidelines for Americans	• Homework #2 due
Week 5 February 19	• Blood pressure	• Carey, Prevention and Control of Hypertension: JACC 2018 • He, Salt in CVD Prevention: Nature Reviews 2018	• Discussion of He article

Week 6 February 26	• Diabetes, Metabolic Syndrome	• Schwarz, Blood Sugar Regulation for Cardiovascular Health Promotion and Disease Prevention: JACC 2018 • Estruch, PREDIMED: NEJM 2013	• Discussion of Estruch article • Homework #3 due
Week 7 March 5	• Tobacco (guest lecture: Dr. Rachel Widome)	• Kalkhoran, Prevention and Treatment of Tobacco Use: JACC 2018 • Bhatnagar, AHA E-Cigarette Statement: Circulation 2014	• None
Week 8 March 12	• Lipids (guest lecture: Dr. Aaron Folsom)	• Ference, Impact of Lipids on Cardiovascular Health: JACC 2018	• Homework #4 due
SPRING BREAK March 19	• N/A	• N/A	• N/A
Week 9 March 26	• Novel risk factors, psychosocial (Lutsey) • Infection (guest lecture: Tess Peterson)	• Kubzansky, Positive Psychosocial Well-Being and Cardiovascular Disease: JACC 2018 • Libby, Inflammation, Immunity and Infection in Atherosclerosis : JACC 2018 • Optional: Havranek, AHA Social Determinants Statement: Circulation 2015	• Homework #5 due
Week 10 April 2	• Genetics (Lutsey); • Epidemiology of AF, AAA, VTE (guest leture: Norby)	• Assimes, Genetics: Implications for CAD Prevention and Management: JACC 2016	• None
Week 11 April 9	• Presentation Day 1	• None	• Paper due + present (50% class)
Week 12 April 16	• Presentation Day 2	• None	• Paper due + present (50% class)

Week 13 April 23	• Prevention I	• Rose, Sick individuals and sick populations: AJE 1985 • Wright, Million Hearts 2022: JAMA 2018 • Review Ask About Aspirin website http://askaboutaspirin.umn.edu/ • Supplemental: Healthy, School-Based Intervention for Diabetes risk reduction: NEJM 2010	• Discuss Rose and Wright articles, and Ask About Aspirin group-randomized trial
Week 14 April 30	• Prevention II	• Lonn, Polypill: Circulation 2010 • Franco, Polymeal: BMJ 2008 • Vasan, The future of CVD Epidemiology: Circulation 2016	• Discuss the polypill, the polymeal, and the future of CVD Epidemiology • Homework #6 due
Additional reading resources		• The following are all AHA Statements of potential interest: • McSweeney, Prevention in Women: Circulation 2016 • Steinberger, Prevention in Children: Circulation 2016 • Mozaffarian, Population Approaches to improve diet, physical activity and smoking habits: Circulation 2012 • 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 • Burke, Mobile Health for CVD Prevention: Circulation 2015	

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:

% In Class	Grade	GPA
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
Scholastic Dishonesty, Plagiarism, Cheating, etc.	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 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. 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 (http://z.umn.edu/iuplagiarism).
Late Assignments	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.
Attendance Requirements	Attendance is expected. Please inform Dr. Lutsey planned absences in advance. For unplanned absences, please alert Dr. Lutsey when feasible.
Extra Credit	None.