

PUBH 6933, SECTION 001

Nutrition and Chronic Diseases Spring 2019

COURSE & CONTACT INFORMATION

Credits: 2

Meeting Day(s): Wednesdays

Meeting Time: 12:30-2:15 pm

Meeting Place: Mayo A110

Instructor: Lisa Harnack DrPH, RD

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Office Hours: Upon request

Office Location: Rm 323 West Bank Office Building

COURSE DESCRIPTION

This course covers issues in nutrition and public health, with an emphasis on how nutrition research is translated into dietary recommendations for chronic disease prevention. The process of effectively and efficiently identifying, reading, and synthesizing existing sources of reliable information on particular diet disease associations will be covered extensively as will applying this knowledge in a public health context. We will focus on the relation of nutrition to obesity, diabetes, coronary heart disease, hypertension, cancer, and selected additional health outcomes of public health significance in the U.S.

Acknowledgments

The contents of PubH 6933 have been developed with the contributions of numerous instructors. Dr. Lisa Harnack, the current instructor, has been involved with the majority of recent content and modifications. Former faculty/instructors, including Drs. Kim Robien and Mark Pereira, all had roles in either the conceptual development or actual content of the current course, and are acknowledged for their contributions.

COURSE PREREQUISITES

This course is designed for graduate students in the Public Health Nutrition MPH program. Graduate students from other programs are welcome, however it is strongly recommended that all students have had previous (or concurrent) coursework in:

- Epidemiology (such as PubH 6320 - *Fundamentals of Epidemiology* or PubH 6330 - *Epidemiology I*)
- Nutrition (such as PubH 6905 - *Human Nutrition and Health*, FScN 1112 - *Principles of Nutrition*, FScN 4612 - *Advanced Human Nutrition*, or NUTR 5626 - *Nutritional Physiology*)
- Pathophysiology (such as PubH 6355 - *Pathophysiology of Human Disease*)

COURSE GOALS & OBJECTIVES

By the end of the course students will be able to:

Evidence-based medicine/public health

- Be familiar with key concepts in evidence-based medicine/public health
- Understand the importance of evidence-based medicine/public health framework as well as limitations.
- Consider this framework on the context of the 'real world' where nutrition and health topics are in the news daily and the agencies/clients you work with have ongoing questions.

Dietary recommendations for the public

- Describe the various recommendations issued to the public in the U.S. and the premises on which they are based.
- Understand the 2015-2020 Dietary Guidelines for Americans thoroughly, including being able to explain how they are formulated and their strengths and limitations. Also, be able to apply these recommendations in public health practice.

- Formulate ideas on how to reduce consumer confusion that exists due to varied and changing recommendations.

Utilizing scientific evidence on nutrition and chronic disease to guide practice and education

- Utilize literature effectively and efficiently by knowing how to locate, access and use reliable resources.
- Understand bias in the scientific literature and elsewhere, and develop strategies for taking this into account when interpreting available information.
- Describe potential for personal bias, and be aware of strategies that may be used to eliminate as much bias as possible in reviewing and synthesizing evidence and formulating recommendations.
- Able to communicate nutrition and health information in an accurate and clear manner to a variety of audiences and through various channels.

Knowledgeable about what is currently known about the role of diet, and it's interplay with genetic factors, on

- Obesity
- Diabetes
- Coronary heart disease
- Hypertension
- Cancer
- A variety of additional diet disease associations

METHODS OF INSTRUCTION AND WORK EXPECTATIONS

Course Workload Expectations

Nutrition and Chronic Diseases 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. Thus, this course requires approximately 90 hours of effort spread over the course of the term in order to earn an average grade.

Learning Community

School of Public Health courses ask students to discuss frameworks, theory, policy, and more, often in the context of past and current events and policy debates. Many of our courses also ask students to work in teams or discussion groups. 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.

In this course, students are expected to engage with each other in respectful and thoughtful ways.

In group work, this can mean:

- Setting expectations with your groups about communication and response time during the first week of the semester (or as soon as groups are assigned) and contacting the TA or instructor if scheduling problems cannot be overcome.
- Setting clear deadlines and holding yourself and each other accountable.
- Determining the roles group members need to fulfill to successfully complete the project on time.
- Developing a rapport prior to beginning the project (what prior experience are you bringing to the project, what are your strengths as they apply to the project, what do you like to work on?)

In group discussion, this can mean:

- Respecting the identities and experiences of your classmates.
- Avoid broad statements and generalizations. Group discussions are another form of academic communication and responses to instructor questions in a group discussion are evaluated. Apply the same rigor to crafting discussion posts as you would for a paper.
- Consider your tone and language, especially when communicating in text format, as the lack of other cues can lead to misinterpretation.

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

The required readings for this course are all available online via the course Canvas site.

To access the Canvas site, go to the University One Stop page <https://onestop.umn.edu/> and select "myU" from the button in the upper right. This will take you to your personal University resource page where you can access all of the courses you are registered for.

COURSE OUTLINE/WEEKLY SCHEDULE

Week	Topic	Activities/Assignments
01/23	Introductions & course overview Evidence-based medicine and public health	
01/30	Dietary guidelines & recommendations to the public	Assignment 1 due
02/06	Evaluating the scientific evidence on nutrition and chronic disease; identifying reliable sources of information; synthesizing the evidence and communicating	
02/13	Nutrition and obesity	Assignment 2 due
02/20	Nutrition and diabetes	
02/27	Nutrition and coronary heart disease	
03/06	Nutrition and hypertension; stroke	
03/13	Nutrition and cancer	Assignment 3 due
03/20	NO CLASS- SPRING BREAK	
03/27	Nutrition and digestive health	
04/03	Nutrition and neural health	
04/10	Nutrition and autoimmune disease Nutrition and urinary health	Assignment 4 due
04/17	Fluoride: Safe? Effective? Dietary supplements: Regulation, health benefits, and safety	
04/24	Food colorings, additives, & flavorings: What do we know about safety? Food systems, policy, and culture: Contributing to chronic disease?	Assignment 5 due
05/01	Q&A and discussion of assignment 5 fact sheets and audiocasts	

Readings

Week	Readings
01/23	<p>Brunner E, Rayner M, et al. Making Public Health Nutrition relevant to evidence-base action. Public Health Nutrition. 2001 4(6): 1297-1299.</p> <p>Ioannidis JP. The challenge of reforming nutritional epidemiology research. Journal of the American Medical Association. 2018 321 (10): 969-970.</p> <p>Hu FB, Willett WC. Current and future landscape of nutritional epidemiologic research. Journal of the American Medical Association. 2018 320 (20): 2073-2074.</p>
01/30	<p>Dietary Guidelines for Americans, 2015-2020 (policy Document) (read in its entirety)</p> <p>Scientific Report of the 2015 Dietary Guidelines Advisory Committee. (read the Executive Summary, briefly scan the rest to get oriented to its content)</p> <p>Browse the ChooseMyPlate website to see what resources are available to different audiences (e.g. children, adults, professionals, etc.).</p>
02/06	<p>Lichtenstein AH, Yetley EA, Lau J. Application of Systematic Review Methodology to the Field of Nutrition. Journal of Nutrition. 2008 138:2297-2306.</p> <p>Brown AW, Ioannidis JP, Cope MB, Bier DM, Allison DB. Unscientific beliefs about scientific topics in nutrition. Advances in Nutrition. 2014 5: 563-565.</p> <p>Quagliani D and Hermann M. Practice Paper of the American Academy of Nutrition and Dietetics: Communicating Accurate and Clear Nutrition Information. Journal of the American Academy of Nutrition and Dietetics. 2012 112(5).</p>
02/13	<p>Johnston BC et al. Comparison of weight loss among named diet programs in overweight and obese adults. Journal of the American Medical Association. 2014 313(9): 923-933.</p> <p>Van Horn L. A diet by any other name is still about energy. Journal of the American Medical Association. 2014 313(9): 900-901.</p> <p>Katare B, Beatty TK. Do environmental factors drive obesity? Evidence from international graduate students. Health Economics. 2018 27(10): 1567-1593.</p>
02/20	<p>Diabetes Prevention Program Research Group. 10-year follow-up of diabetes incidence and weight loss in the Diabetes Prevention Program Outcome Study. Lancet. 2009 374:1677-1686.</p> <p>Komaroff AL. The microbiome and risk for obesity and diabetes. Journal of the American Medical Association. 2017; 317-(4): 355-356.</p> <p>Uusitalo U et al. Early infant diet and islet autoimmunity in the TEDDY study. Diabetes Care. 2018 41:522-530.</p>
02/27	<p>Van Horn, L et al. Recommended dietary pattern to achieve adherence to the American Heart Association/ American College of Cardiology (AHA/ACC) Guidelines. Circulation. 2016; 124:3505-e529.</p> <p>Manson, JE et al. Marine n-3 fatty acids and prevention of cardiovascular disease and cancer. New England Journal of Medicine. 2018 Nov. 10 (epub ahead of print).</p> <p>Position of the Academy of Nutrition and Dietetics: Dietary Fatty Acids for Healthy Adults. Journal of the Academy of Nutrition and Dietetics. 2014 114:136-153.</p>
03/06	<p>Sack FM et al. Effects of blood pressure of reduced dietary sodium and the dietary approaches to stop hypertension (DASH) diet. New England Journal of Medicine. 2001 344(1): 3-10.</p> <p>Whelton PK et al. Sodium, blood pressure, and cardiovascular disease: Further evidence supporting the American Heart Association sodium reduction recommendations. Circulation. 2012 126:2880-2889.</p>

03/13	<p>Kushi LH et al. American Cancer Society guidelines on nutrition and physical activity for cancer prevention. <i>Cancer Journal for Clinicians</i>. 2012 62:30-67.</p> <p>Manson JE et al. Vitamin D supplements and prevention of cancer and cardiovascular disease. <i>New England Journal of Medicine</i>. 2018 Nov. 10 (epub ahead of print).</p>
03/20	NO CLASS- SPRING BREAK
03/27	<p>Position of the Academy of Nutrition and Dietetics: Health implications of dietary fiber. <i>Journal of the Academy of Nutrition and Dietetics</i>. 2015 115:1861-1870.</p> <p>Leonard MM. Celiac disease and nonceliac gluten sensitivity a review. <i>Journal of the American Medical Association</i>. 2017; 318(7): 647-656.</p>
04/03	<p>Hoyland A, Dye L, and Lawton C. A systematic review of the effect of breakfast on the cognitive performance of children and adolescents. <i>Nutrition Research Reviews</i>. 2009 22: 220–243.</p> <p>Moore K. et al. Diet, nutrition and the ageing brain: current evidence and new directions. <i>Proceedings of the Nutrition Society</i>. 2018 77(2): 152-163.</p>
04/10	<p>Togias A et al. Addendum Guidelines for the Prevention of Peanut Allergy in the United States: Summary of the National Institute of Allergy and Infectious Diseases-Sponsored Expert Panel. <i>Journal of the Academy of Nutrition and Dietetics</i>. 2017 117(5): 788-793.</p> <p>Wong Y et al. Metabolic syndrome and kidney stone disease: A systematic review of literature. <i>Journal of Endourology</i>. 2016 30(3): 246-253.</p>
04/17	<p>Position of the Academy of Nutrition and Dietetics: The Impact of Fluoride on Health. <i>Journal of the Academy of Nutrition and Dietetics</i>. 2012 112:1443-1453.</p> <p>Carroll AE. Given Their Potential for Harm, It's Time to Focus on the Safety of Supplements. <i>Journal of the American Medical Association</i>. 2018 320(13): 1306-1307.</p> <p>Fortmann S, Burda B, Senger C, Lin J, Whitlock E. Vitamin and mineral supplements in the Primary Prevention of Cardiovascular Disease and Cancer: An updated systematic evidence review for the U.S. Preventive Services Task Force. <i>Annals of Internal Medicine</i>. 2013 159(12):824-834.</p>
04/24	<p>FDA Food Additives and Ingredients http://www.fda.gov/Food/IngredientsPackagingLabeling/FoodAdditivesIngredients/default.htm (Scan/Peruse)</p> <p>Dwyer JT et al. Is “processed” a four-letter word? The role of processed foods in achieving dietary guidelines and nutrient recommendations. <i>Advances in Nutrition</i>. 2012 3: 534-548.</p> <p>Auestad N, Fulgoni VL. What current literature tells us about sustainable diets: Emerging research linking dietary patterns, environmental sustainability and economics. <i>Advances in Nutrition</i>. 2015 6: 19-36.</p>
05/01	Read your classmate’s fact sheets and listen to their audiocasts (available on Canvas beginning 04/25).

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

Evaluation

Grading will be based on:

Assignment 1 (25 possible points)	10%
Assignment 2 (30 possible points)	20%
Assignment 3 (30 possible points)	20%
Assignment 4 (30 possible points)	20%
Assignment 5 (50 possible points)	30%

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.	<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	10% deduction for each day the assignment is late
Attendance Requirements	Not applicable
Extra Credit	Not applicable

CEPH COMPETENCIES

Competency	Learning Objectives	Assessment Strategies
<p>Interpret results of data analysis for public health research, policy or practice</p>	<p>Utilize literature effectively and efficiently by knowing how to locate, access and use reliable resources.</p> <p>Understand bias in the scientific literature and elsewhere, and develop strategies for taking this into account when interpreting available information.</p> <p>Describe potential for personal bias, and be aware of strategies that may be used to eliminate as much bias as possible in reviewing and synthesizing evidence and formulating recommendations.</p>	<p>Assignments 2, 4, 5</p>
<p>Communicate audience-appropriate public health content, both in writing and through oral presentation</p>	<p>Able to communicate nutrition and health information in an accurate and clear manner to a variety of audiences and through various channels.</p>	<p>Assignments 1, 3, 4, 5</p>