



PubH 6933-001
Nutrition and Chronic Diseases
Spring 2017

Credits: 2
Meeting Days: Wednesdays
Meeting Time: 12:20pm-2:15pm
Meeting Place: Mayo Bldg & Additions A110 TCEASTBANK
Instructor: Lisa Harnack
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Office Phone: 612-626-9398
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E-mail: harna001@umn.edu
Office Hours: available by appointment

I. 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.

II. 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)

III. Course Goals and 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 in

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

IV. Methods of Instruction and Work Expectations

The methods of instruction include lectures with small group discussion and student lead activities incorporated throughout. The course exercises and assignments are focused on learning by doing.

V. Course Text and Readings

The required readings for this course are all available online via either the course Moodle site or links provided in the following reading list:

To access this course in Moodle, go to the University One Stop page [<https://onestop.umn.edu/>](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.

VI. Course Outline/Weekly Schedule

Weekly Schedule

| Date | Topics | Assignments |
|-------------|--|--------------------|
| 1/17 | Introductions & course overview Evidence-based medicine and public health | |
| 1/24 | Dietary guidelines & recommendations to the public | Assignment 1 due |

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|------|---|------------------|
| 1/31 | Evaluating the scientific evidence on nutrition and chronic disease; identifying reliable sources of information; synthesizing the evidence and communicating | |
| 2/7 | Nutrition and obesity | Assignment 2 due |
| 2/14 | Nutrition and diabetes | |
| 2/21 | Nutrition and coronary heart disease | |
| 2/28 | Nutrition and hypertension; stroke | |
| 3/4 | Nutrition and cancer | Assignment 3 due |
| 3/14 | NO CLASS- SPRING BREAK | |
| 3/21 | Nutrition and digestive health | |
| 3/28 | Nutrition and neural health | |
| 4/4 | Nutrition and autoimmune disease Nutrition and urinary health | Assignment 4 due |
| 4/11 | Dietary supplements: Regulation, health benefits, and safety | |
| 4/18 | Fluoride: Safe? Effective? Food colorings, additives, & flavorings: What do we know about safety? | |
| 4/25 | Food systems, policy, and culture: Contributing to chronic disease? | Assignment 5 due |
| 5/2 | Discuss podcasts/fact sheets, awards, and potluck | |

Readings

| Date | Readings |
|-------------|---|
| 1/17 | Brunner E, Rayner M, et al. Making Public Health Nutrition relevant to evidence-base action. <i>Public Health Nutrition</i> 2001; 4(6): 1297-1299. Satija A, Yu E, Willett WC, Hut FB. Understanding nutritional epidemiology and its role in policy. <i>Advances in Nutrition</i> 2015; 5: 5-18. |
| 1/24 | Dietary Guidelines for Americans, 2015-2020 (policy Document) (read in its entirety) Scientific Report of the 2015 Dietary Guidelines Advisory Committee . (read the Executive Summary, briefly scan the rest to get oriented to its content) Browse the ChooseMyPlate website to see what resources are available to different audiences (e.g. children, adults, professionals, etc.). |
| 1/31 | Lichtenstein AH, Yetley EA, Lau J. Application of Systematic Review Methodology to the Field of Nutrition. <i>Journal of Nutrition</i> 2008.138:2297-2306. Brown AW, Ioannidis JP, Cope MB, Bier DM, Allison DB. Unscientific beliefs about scientific topics in nutrition. <i>Advances in Nutrition</i> 2014; 5: 563-565. Quagliani D and Hermann M. Practice Paper of the American Academy of Nutrition and Dietetics: Communicating Accurate and Clear Nutrition Information. <i>Journal of the American Academy of Nutrition and Dietetics</i> 2012:112(5). |

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| 2/7 | <p>Casazza K et al. Myths, presumptions, and facts about obesity. <i>New England Journal of Medicine</i> 2013 112(5): 446-454.</p> <p>Johnston BC et al. Comparison of weight loss among named diet programs in overweight and obese adults. <i>Journal of the American Medical Association</i> 2014 313(9): 923-933.</p> <p>Van Horn L. A diet by any other name is still about energy. <i>Journal of the American Medical Association</i>. 2014 313(9): 900-901.</p> |
| 2/14 | <p>Diabetes Prevention Program Research Group. 10-year follow-up of diabetes incidence and weight loss in the Diabetes Prevention Program Outcome Study. <i>Lancet</i> 2009 374:1677-1686.</p> <p>Komaroff AL. The microbiome and risk for obesity and diabetes. <i>JAMA</i> 12/11/2016 (online first).</p> <p>Eringsmark Regnell S and Lemmark A. °The environment and the origins of islet autoimmunity and Type 1 diabetes. <i>Diabetes Medicine</i> 2013 30: 155–160.</p> |
| 2/21 | <p>Van Horn, L et al. Recommended dietary pattern to achieve adherence to the American Heart Association/ American College of Cardiology (AHA/ACC) Guidelines. <i>Circulation</i> 2016; 124:3505-e529.</p> <p>Position of the Academy of Nutrition and Dietetics: Dietary Fatty Acids for Healthy Adults. <i>Journal of the Academy of Nutrition and Dietetics</i> 2014 114:136-153.</p> |
| 2/28 | <p>Sack FM et al. Effects of blood pressure of reduced dietary sodium and the dietary approaches to stop hypertension (DASH) diet. <i>New England Journal of Medicine</i> 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. <i>Circulation</i> 2012;126:2880-2889.</p> |
| 3/7 | <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>Patisaul HB, Jefferson W. The pros and cons of phytoestrogens. <i>Front Neuroendocrinol</i> 2010; 21(4): 400-419.</p> |
| 3/14 | NO CLASS- SPRING BREAK |
| 3/21 | <p>Position of the Academy of Nutrition and Dietetics: Health implications of dietary fiber. <i>J Am Acad Nutr Diet</i> 2015; 115:1861-1870.</p> <p>Krigel A, Lebwohl B. Nonceliac gluten sensitivity. <i>Adv Nutr</i> 2016;7:1105-1010.</p> |
| 3/28 | <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: doi:10.1017/S0029665117004177</p> |
| 4/4 | <p>Togias A et al. Addendum guidelines for the prevention of peanut allergy in the United States: Report on the National Institute of Allergy and Infectious Diseases- sponsored expert panel. 2017.</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> |

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| 4/11 | <p>Buchman A. Personal and government regulation of nutritional supplements: What we want and what we should expect. Journal of Laboratory and Clinical Medicine 2002 139:339-342.</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. Annals of Internal Medicine 2013 159(12):824-834.</p> |
| 4/18 | <p>Position of the Academy of Nutrition and Dietetics: The Impact of Fluoride on Health. Journal of the Academy of Nutrition and Dietetics. 2012 112:1443-1453.</p> <p>FDA Food Additives and Ingredients http://www.fda.gov/Food/IngredientsPackagingLabeling/FoodAdditivesIngredients/default.htm (Scan/Peruse)</p> |
| 4/25 | <p>Lucan SC. Concerning Limitations of Food-Environment Research: A Narrative Review and Commentary Framed around Obesity and Diet-Related Diseases in Youth. J Acad Nutr Diet 2017 115(2): 205-212.</p> <p>Dwyer JT et al. Is “processed” a four-letter word? The role of processed foods in achieving dietary guidelines and nutrient recommendations. Advances in Nutrition 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. Advances in Nutrition 2015 6: 19-36.</p> |
| 5/2 | <p>Listen to and rate your classmates’ podcasts/fact sheets available on course Moodle site as of 4/26.</p> |

VII. Evaluation and Grading

Grading will be based on:

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|--------------|-----|
| Assignment 1 | 10% |
| Assignment 2 | 20% |
| Assignment 3 | 20% |
| Assignment 4 | 20% |
| Assignment 5 | 30% |

Grading: A letter grade will be determined by total effort as follows (S/N option information follows):

A= 92.5-100.0 points
A-= 90.0-92.4 points
B+= 87.5-89.9 points
B = 82.5-87.4 points
B- = 80.0-82.4 points
C+ = 77.5-79.9
points C = 72.5-77.4
points C- = 70.0-72.4
points D+ = 67.5-
69.9 points D = 62.5-
67.4 points D- =
60.0-62.4 points F
=<60

F (or N) – Represents failure (or no credit) and signifies that the 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

S – Achievement that is satisfactory will be expected to complete all assignments and receive a minimum of 70% to receive a passing scores (achievement required for an S is at the discretion of the instructor but may be no lower than a 70%).

The University utilizes plus and minus grading on a 4.000 cumulative grade point scale in accordance with the following:

- 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 C- or better.

Scores on homework assignments and exams received after the due date will be reduced by 10% for each day late. No assignments or exams will be accepted more than three days late, and a zero will be assigned.

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 CourseEval: www.sph.umn.edu/courseeval. 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 Community Standards has compiled a useful list of Frequently Asked Questions pertaining to scholastic dishonesty <https://communitystandards.umn.edu>. 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. The Disability Resource Center Student Services 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 DRC at 612-626-1333 or drc@umn.edu 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 Community Standards, 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 <https://osa.umn.edu/>.

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.*

OR:

Academic Freedom and Responsibility, for courses that 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 and conduct relevant research. 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.* When conducting research, pertinent institutional approvals must be obtained and the research must be consistent with University policies.

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, (Dr Kristin Anderson, SPH Dean of Student Affairs), or the Vice Provost for Faculty and Academic Affairs in the Office of the Provost.

** 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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