

School of Public Health

Syllabus and Course Information



UNIVERSITY OF MINNESOTA
Driven to DiscoverSM

PubH 6390

Population Aging and Health

Spring Semester, 2016

Credits:	2
Meeting Days:	Monday/Wednesday (March 21 – May 6, 2016)
Meeting Time:	12:20-2:15
Meeting Place:	TBD
Instructor:	Benjamin Capistrant, ScD
Office Address:	WBOB, 439
Office Phone:	612-624-2891
Fax:	612-624-0315
E-mail:	bcapistr@umn.edu
Office Hours:	By appointment

I. Course Description

This survey course introduces core concepts and methods related to population health and aging. Half of the course will focus on demographic measures of population health and aging, primarily life expectancy and mortality, as well as family demography, fertility and migration. The other half of the course will use an epidemiologic approach to population prevalence, incidence and distribution of specific diseases and conditions relevant in older age.

II. Course Prerequisites

Graduate student status. The interdisciplinary course is designed for graduate students, particularly those in public health, population studies, health sciences, social work, and in other disciplines interested aging and gerontology. Although there are no formal prerequisites for the course, students will ideally have had an introductory class in statistics/research methods and/or introductory epidemiology. Please contact the instructor if you have questions on prerequisites.

III. Course Goals and Objectives

After completing this course, students will have a greater appreciation and understanding of:

- Dominant theories that inform epidemiologic and population health research on aging
- Current projections of population aging, globally and in the U.S.
- General principles of and methods for estimating life expectancy and mortality
- How other pillars of demography -- migration and fertility – influence projections for population aging and quality of life in older age
- Prevalence and incidence of health conditions that emerge in older age, especially:
 - Dementia/cognitive function
 - Disability/physical function and falls
 - Chronic diseases and multi-morbidity
- Active debates about definitions and measures of common geriatric syndromes (i.e., frailty)
- Study designs and methods used to study population health of older adults
- How to read critically the epidemiologic literature on health conditions in older age

IV. Methods of Instruction and Work Expectations

Each 2 hour class session will consist primarily of instructor-led lecture. In addition to regular, expected class participation, there will be additional formal activities during the class sessions throughout the semester for class discussion and student-led presentation of course material. Successful class participation will typically require having completed assigned reading prior to class. In sum, students are expected to attend, be prepared for and actively participate in all course sessions.

V. Course Text and Readings

There are no textbooks required for purchase. Course readings will be a combination of articles published in journals and chapters in books that are freely available online via the University library system. Four books in particular will be used:

Newman AB, Cauley JA. The epidemiology of aging. New York: Springer; 2012. [Link](#)

Rogers RG, Crimmins EM. International handbook of adult mortality. New York: Springer; 2011. [Link](#)

Uhlenberg P. International handbook of population aging. Vol 1. London: Springer; 2009. [Link](#)

Binstock RH, George LK. Handbook of aging and the social sciences. 7th ed. Amsterdam: Elsevier/Academic Press; 2011. [Link](#)

Readings are classified as required, recommended, and skim. Recommended readings, including those to skim, are listed as a reference in case a student wants more depth in that topic. Those denoted as skim are relevant, but not as centrally as the other recommended readings.

VI. Course Outline/Weekly Schedule

Topics	Readings	Due
1 Introduction	<p>Required: National Institute on Aging. Why Population Aging Matters. Bethesda, MD: National Institutes of Health. 2007. Link</p> <p><u>Recommended:</u></p> <ul style="list-style-type: none"> • Theories <ul style="list-style-type: none"> ○ Bengston VL, Silverstein M, Putney NM, Gans D. Theories About Age and Aging. Chapter 1, In Bengston VL, Silverstein M, Putney NM, Gans D, eds. Handbook of Theories of Aging. New York: Springer, 2009. p6-18, skim rest. Link. ○ <i>Skim:</i> 	
Interdisc. Theories of Aging		
Overview of Demography of		

Global Aging	<ul style="list-style-type: none"> ▪ Markus Schafer & Kenneth Ferraro, Chapter 2 (Data Sources for Studying Aging) in Uhlenberg (esp. for the profile, final project) ▪ Theories of Aging, American Federation on Aging Research. Link ▪ Olshansky SJ, Grant M, Brody J, Carnes BA. Biodemographic perspectives for epidemiologists. <i>Emerging Themes in Epidemiology</i> 2005, 2:10 Link <ul style="list-style-type: none"> • Overview of Demography of Global Aging <ul style="list-style-type: none"> ○ Joshua Goldstein, Chapter 1 (How Populations Age) in Uhlenberg ○ Skim (especially for the Country Profile): <ul style="list-style-type: none"> ▪ Donald Rowland, Chapter 3 (Global Population Aging) in Uhlenberg ▪ Linda Martin, Chapter 3 (Demography of Aging) in Binstock & George ▪ Yang Yang, Chapter 2 (Age, Cohorts and Methods) in Binstock & George 	
2 Life Expectancy: Theories, Definitions, and Methods	<p>Required: Carol Jagger and Jean-Marie Robine, Chapter 26 (Healthy Life Expectancy) in Rogers & Crimmins</p> <p>Recommended: World Health Organization. WHO methods for life expectancy and healthy life expectancy. 2014. Global Health Estimates Technical Paper WHO/HIS/HSI/GHE/2014.5 Geneva: World Health Organization. Link</p>	Reflection & Response (R&R) 1
3 Mortality: Theories, Definitions, and Methods	<p>Required: Jean-Marie Robine, Chapter 10 (Age Patterns in Adult Mortality) in Rogers & Crimmins</p> <p>Recommended:</p> <ul style="list-style-type: none"> • Patrick Heuveline & Samuel Clark, Chapter 24 (Model Schedules of Mortality) in Rogers & Crimmins • Skim: Robert Anderson, Chapter 22 (Coding and Classifying Causes of Death: Trends and International Differences) in Rogers & Crimmins 	
4 Life Expectancy and Mortality: Heterogeneity and Debates	<p>Required: S. Jay Olshansky, Chapter 4 (Trends in Longevity and Prospects for the Future) in Binstock & George</p> <p>Recommended: Robert Hummer et al, Chapter 23 (Mortality Patterns in Late Life) in Uhlenberg</p>	R&R 2
5 Migration and Family Demography	<p>Required: Emily Agree & Karen Glaser, Chapter 29 (Demography of Informal Caregiving) in Uhlenberg</p> <p>Recommended: Don Bradley & Charles Longino, Chapter 14 (Geographic Mobility and Aging in Place) in Uhlenberg</p>	

6	Implications of Population Aging	<p>Required: John Gist, Chapter 25 (Fiscal Implications of Population Aging) in Binstock & George</p> <p><u>Recommended:</u> Angela O’Rand, et al, Chapter 19 (Private Pensions in International Perspective) in Uhlenberg</p>	Country Profile Due
7	Overview of Epidemiology of Aging	<p>Required:</p> <ul style="list-style-type: none"> • Fried LP. Epidemiology of Aging. <i>Epidemiologic Reviews</i>. 2000; 22(1):95-106. Link • Ferrucci L, Giallauria F, Guralnik JM. Epidemiology of Aging. <i>Radiology Clinics of North America</i>. 2008;46(4):643-652 Link <p><u>Recommended:</u></p> <ul style="list-style-type: none"> • Newman AB and Murabito JM. The Epidemiology of Longevity and Exceptional Survival. <i>Epidemiol Rev</i>. 2013;35(1):181-197. Link. • Jason Sanders, Robert Boudreau & Anne Newman, Chapter 12 (Understanding the Aging Process Using Epidemiologic Approaches) in Newman & Cauley 	R&R 3
8	Alzheimer's and Dementia	<p>Required: Deborah Barnes, Oscar Lopez, and Kristine Yaffe, Chapter 31 (Dementia and Alzheimer’s Disease) in Newman & Cauley</p> <p><u>Recommended:</u></p> <ul style="list-style-type: none"> • Rodriguez et al. Prevalence of dementia in Latin America, India and China. <i>Lancet</i> 2008; 372:464-474 Link • Verghese J, et al. Motoric cognitive risk syndrome. <i>Neurology</i>, 2014;83:718-726. Link 	Final Project Proposal Due
9	Disability	<p>Required: Guralnik JM, et al. Chapter 7 (Assessing Functional Status and Disability in Epidemiologic Studies) in Newman & Cauley</p> <p><u>Recommended:</u></p> <ul style="list-style-type: none"> • Clouston SAP et al. The Dynamic Relationship between Physical Function and Cognition in Longitudinal Aging Cohorts. <i>Epidemiol Rev</i>. 2013;35(1):33-50 Link • Verbrugge & Jette. The disablement process. <i>Social Science & Medicine</i>. 1994;38(1):1-14. Link. • Glass T. Conjugating the “tenses” of Function. <i>The Gerontologist</i>. 1998; 38(1): 101-112. Link 	R&R 4
10	Movement Disorders, Mobility & Falls	<p>Required: Ritchey & Studenski, Chapter 17 (Epidemiology of Falls and Mobility Disorders) in Newman & Cauley</p> <p><u>Recommended:</u> Lang AE and Lozano AM. <i>Parkinson’s Disease</i>. N</p>	

11 Comorbidity, Multi-Morbidity & Frailty	Required: Newman, Chapter 8 (Comorbidity and Multimorbidity) in Newman & Cauley <u>Recommended:</u> <ul style="list-style-type: none">• Bergman H, et al. Frailty: An emerging research and clinical paradigm. J Gerontol A Biol Sci Med Sci, 2007, Vol. 62(7), pp.731-737 Link• Fried L et al, Untangling the Concepts of disability, frailty, and comorbidity. J Gerontol A Biol Sci Med Sci. 2004;59(3)M255-M263 Link	R&R 5
12 Obesity, Cardio-metabolic Diseases and Aging	Required: Visser & Harris, Chapter 16 (Body Composition and Aging) in Newman & Cauley. <u>Recommended:</u> <ul style="list-style-type: none">• Barzilay, Chapter 26 (The Impact of Diabetes in Older Adults) in Newman & Cauley• <i>Skim:</i><ul style="list-style-type: none">○ Newman et al, Chapter 24 (The Epidemiology of Coronary Artery Disease in Older Adults) in Newman & Cauley○ Kuller, Chapter 30 (Stroke Epidemiology & Prevention) in Newman & Cauley	
13 Final Project , Presentations 14	Final Project Presentations in class and Final Project Paper Due (48 hours after presentation)	Final Project Presentation

VII. Evaluation and Grading

Grades for the course will be based on 100 points.

20 points: Class Attendance and Participation

20 points: Reflection and Response (R&R)

There will be 5 short reflections and responses based on the day's readings due at the beginning of class. Responses should be ½-1 page, single spaced. The response should not simply restate what the readings said. Instead, they are meant as an opportunity for each student to respond to the reading and to comment on things like: what in the readings was new to them, how the material in the readings connected either with other readings for that day or with material previously covered in class, with what in the article the student did or didn't agree, whether the presentation of material was balanced, whether the methods were strong, or what was missing from the article, etc. Think about it more like a blog post of your thoughts about the readings than simply a summary of what the reading said. Moreover, these exercises are good opportunities to begin thinking about the country profile and the final project.

25 points: Country Profiles of Population Aging

Students will create a one page (single spaced, 11 point Arial font, 1/2" margins, not including figure and tables) summary of projections of population aging by 2030 and/or 2050 for a country of the student's choice. The goal should be to create a concise, but thorough, general summary of population aging in this country. The measure(s) of population aging used in the profile should be well defined. The summary should present data – minimum of 1 table/figure, and maximum of 3 – with some description and citation to the data source.

This profile should include a comparison to another country's population aging; this comparison should be a minimum of one paragraph and maximum of 1/2 page in length. The choice of countries could be dramatic contrasts, like a low income country compared to a well-known standard like the US, or two countries of similar economic standing (e.g., Russia and Brazil) and/or geographic relevance (e.g., France and Germany). If instead students wish to make comparisons within the US (between states, men/women, racial comparisons), they should discuss this with Professor Capistrant.

Potential data sources will be presented through readings and in class. The choice of measure(s) of population aging is at the student's discretion and should be based on those discussed in class and in readings.

5 points: Final Project Proposal

A 1 paragraph summary of the identified a topic for the final project including why you chose it; at least one specified hypothesis that will be tested; 3 key references from the literature on the topic (beyond materials used as course readings); and dataset(s) planned to use (if relevant). See expectations for the Final Project below.

30 points: Final Project

The final project will be a proposed study of a topic covered in, or relevant to, either the first or second half of the course (demography or epidemiology of aging, respectively).

The proposed study should include some background on the issue and the gap the study seeks to fill, a specific aim(s) and hypothesis, significance and innovation of the study, and the analytic approach (including study design, measures, general approach to testing hypotheses). Although studies proposing hypothetical primary data collection studies are certainly welcome, PhD students are encouraged to propose a study that could be carried out with existing data and would result in a publishable paper. Master's students may also want to consider this option for planning thesis projects where relevant.

Students will give a 12-minute oral presentation – with Power Point slides – of their final project during the last two days of class. The presentation should introduce the topic and describe the proposed/completed study. There will be brief Q&A to follow each presentation.

The final written proposal will be due by email (.pdf format) 48 hours after the student's presentation and should reflect any comments received during the presentation. The proposal should be a maximum of 2000 words, excluding title page, references, any tables and figures. The title page should include a 150 word abstract and the total word count. The document should be single spaced, 1/2 inch margins, 11 point Arial font. References should be formatted in AMA style.

The evaluation of these final projects will be on how clearly and succinctly the background and critical gap of the issue are articulated, the specification of measureable hypotheses, and on the appropriateness of the methods proposed to address this gap in the proposed study. There may be variation in the class' background with respect to research methods (i.e., masters vs. advanced doctoral students), which will be considered subjectively while grading as needed.

Unless otherwise noted, all work is due at the beginning of class. Any assignments turned in after class begins are subject to penalization for late work. Late assignments will be penalized 25% of the total possible points for that assignment for each 24 hour period/day late.

The points correspond to letter grades and GPA equivalents as follows:

Points	Letter Grade	GPA	Notes
≥94	A	4.000	Represents achievement that is outstanding relative to the level necessary to meet course requirements
90-93	A-	3.667	
87-89	B+	3.333	
83-86	B	3.000	Represents achievement that is significantly above the level necessary to meet course requirements
80-82	B-	2.667	
77-79	C+	2.333	
73-76	C	2.000	Represents achievement that meets the course requirements in every respect
70-72	C-	1.667	
<70	F	0.000	

S Represents achievement that is satisfactory, which is equivalent to a C- 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 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 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.

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, 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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