UNIVERSITY of WASHINGTON SCHOOL OF PUBLIC HEALTH

Course Syllabus PHI 511, Foundations of Public Health Autumn 2020, 3 credits

Instructor: TBD Phone: TBD Email: TBD Office: TBD Office Hours: TBD Time: (2x/week @ 1.5 hours) Location: TBD

Canvas URL: TBD

Teaching Assistants: TBD Phone: TBD Email: TBD Office: TBD Office Hours: TBD

Course Description

This interdisciplinary core course examines public health and healthcare in the US and globally using a social justice lens and emphasizing the interconnectedness of population and individual health. Using public health and healthcare delivery as the overarching framework, the course will cover foundational elements of public health, including, but not limited to, its history and impact, the importance of health equity and human rights, and how racism manifests and is perpetuated within public health and healthcare systems. The course will build a sense of community and instill a public health mindset among each entering MPH cohort by having all students learning together, and it will lay the foundation for students to work effectively as public health professionals on inter-professional teams.

Course Learning Objectives

After successfully completing the course, students will be able to do the following, **within global and national settings:**

- 1. Compare and critique public health and healthcare organizations, systems, and approaches.
- 2. Evaluate the evolution and impact of public health programs and healthcare delivery on population health outcomes.
- 3. Define the three core functions of public health and explain how each contributes to primary, secondary, and tertiary prevention of diseases in different settings.
- 4. Integrate historical and social justice lenses to describe major causes and trends of population health.
- 5. Apply concepts of diversity, equity and inclusion to function as an effective member of an interprofessional team.

Readings

Each class session will have a tailored set of readings compiled from a variety of sources.

Readings will be available to you via the Canvas website (see instructions above). You are expected to have read all of the required readings prior to the class period for which they are assigned, and be able to engage in discussions around relevant topics that apply to those readings and the lecture for that day.

Learning Assessments & Grading

Final grades will be calculated as follows:

Assessment Item	Grade Percentage
Contribution to small group discussions with peer- and self-assessments (credit/no credit)	15%
Responses to individual assignments uploaded by students once per week (credit/no credit)	10%
Responses to group assignments uploaded to Canvas once per week by group leads, who will rotate each week (credit/no credit)	10%
Two quizzes with short answer responses that occur mid-quarter (numeric grade)	25%
Final paper on one of three topics due at end of the quarter (numeric grade)	40%

Course Outline

MOD	ULE 1: Core Functions of Public Health
1	Individual vs population health
2	Ten essential services of public health
3	Primary, secondary, tertiary prevention
4	Introduction to determinants of health
5	Social class, racism, discrimination and privilege in public health systems
MOD	ULE 2: Healthcare Systems and Delivery in the US and Globally
6	Approaches to healthcare
7	Quality and coverage
8	Implementation (e.g., cost, workforce)
9	Regulatory systems
10	Novel approaches to bridge healthcare and communities
11	Social class, racism, discrimination and privilege in healthcare delivery

- **12** Trends in morbidity and mortality
- **13** History of public health and impact of globalization
- **14** Pragmatic challenges
- 15 Inter-professional teamwork
- **16** Diversity, equity, and inclusion

Readings, Assignments, and Assessments

MODULE 1: Core Functions of Public Health

Each session will start with a short introduction of Module 1, topics 1-5, by the instructors or guest discussants, when appropriate.

Class exercises: These will be based on case studies and readings related to the core functions of public health. This module will use case studies that emphasize different aspects of public health, such as environmental health, nutrition, genetics, etc., and that take both global and local perspectives. **Individual homework assignments:** Each week students will have one short writing assignment based on the readings, class discussions and/or case study. The first exercise will include a self-reflection, in addition to reflections on individual vs population health aspects of the case.

Group assignments: Students will perform class exercises working in small groups. For Module 1, there will be a case study that brings out core functions of public health, specifically addressing topics 1-5; in addition, students will be learning how to work effectively in small groups. The first in-class group exercise might include establishing group norms and values, and defining roles for different group members. This would be submitted along with responses to questions presented in the case. Group assignments would be due once per week and group members would need to rotate responsibility for submission.

Quiz for module: At the end of module, there will be a short answer or multiple choice quiz taken in class.

Required and suggested readings (by topic 1-5):

Individual vs. population health

- Raymond L. Goldsteen, Karen Goldsteen and Terry L. Dwelle. Introduction to public health: promises and practices. 2015. New York: Springer Publishing Company. E-book available through UW Libraries.
- Geoffrey Rose. Sick individuals and sick populations. International Journal of Epidemiology, Volume 30, Issue 3, 1 June 2001, Pages 427–432, <u>https://doi.org/10.1093/ije/30.3.427</u>

Ten essential services of public health

- DeSalvo KB, Wang YC, Harris A, Auerbach J, Koo D, O'Carroll P. Public Health 3.0: A Call to Action for Public Health to Meet the Challenges of the 21st Century. Prev Chronic Dis. 2017 Sep 7;14:E78. doi: 10.5888/pcd14.170017. PubMed PMID: 28880837; PubMed Central PMCID: PMC5590510.
- DeSalvo KB. Prepare and Support Our Chief Health Strategists on the Front Lines. Am J Public Health. 2017 Aug;107(8):1205-1206. doi: 10.2105/AJPH.2017.303912. PubMed PMID: 28700311.
- Gregory D. Kearney. "Environmental Public Health Surveillance", *Environmental Public Health:* The Practitioner's <u>Guide</u>.

- Tete, F., Brown, L., & Gerding, Justin, M.P.H., R.E.H.S. (2017). Food safety program successes in providing the 10 essential environmental public health services. *Journal of Environmental Health*, 80(5), 52-54.
- Choose from: Public Health Essentials In Action Online
- https://www.phlearningnavigator.org/training/public-health-essentials-action-online?src=search
- Strategic Planning Within the Context of the Ten Essential Services <u>https://www.phlearningnavigator.org/training/strategic-planning-within-context-ten-essential-services?src=search</u>
- *Optional viewing:* Hot Topics in Practice: Making the Case for Foundational Public Health Services presented by Barry King.

http://www.nwcphp.org/training/opportunities/webinars/foundational-public-health-services

Primary, secondary and tertiary prevention

- Picture of America: Prevention, CDC. <u>https://www.cdc.gov/pictureofamerica/pdfs/picture_of_america_prevention.pdf</u>
- Chapter 26: Environmental Public Health: From Theory to Practice. Frumkin, H. (2016).
- Environmental Health: From global to local (3rd ed., Public Health/Environmental Health). San Francisco, California: Jossey-Bass. (This entire book is free online through our library system.) This chapter includes a considerable amount on core functions of environmental public health, including concepts of EHP prevention.

Introduction to determinants of health

- Watch: Choose from Health Equity 101. <u>https://www.phlearningnavigator.org/training/health-equity-101</u>
- Measuring Health Disparities <u>https://www.phlearningnavigator.org/training/measuring-health-disparities</u>
- Chapter 1. Introduction to Environmental Health; What Is Environmental Health? from Frumkin, H. (2016).
- Environmental Health: From global to local (3rd ed., Public Health/Environmental Health). San Francisco, California: Jossey-Bass. (This entire book is free online through our library system.)
- Heisler M, Navathe A, DeSalvo K, Volpp KGM. The Role of US Health Plans in Identifying and Addressing Social Determinants of Health: Rationale and Recommendations. Popul Health Manag. 2018 Dec 4. doi: 10.1089/pop.2018.0173. [Epub ahead of print] PubMed PMID: 30513072.
- The Global Syndemic: Uniting Actions to Address Obesity, Undernutrition, and Climate Change. This report highlights how food and food systems relate to chronic disease and maternal and child health and this can be discussed in the context of climate change. https://www.thelancet.com/pdfs/journals/lancet/PIIS0140-6736(18)32822-8.pdf

Social class, racism, discrimination and privilege in public health systems

- Jones, Camara P. 2000. "Levels of Racism: A Theoretic Framework and a Gardener's Tale." American Journal of Public Health 90 (8): 1212–1215. doi: 10.2105/AJPH.90.8.1212
- Bailey ZD, Krieger N, Agénor M, Graves J, Linos N, Bassett MT. Structural racism and health inequities in the USA: evidence and interventions. The Lancet. 2017 Apr 8;389(10077):1453-63.
- Harris M, Macinko J, Jimenez G, Mullachery P. Measuring the bias against low-income country research: an Implicit Association Test. Globalization and health. 2017 Dec;13(1):80.
- Van Herk KA, Smith D, Andrew C. Examining our privileges and oppressions: incorporating an intersectionality paradigm into nursing. Nursing Inquiry. 2011 Mar;18(1):29-39.
- Watch: Ted Talk video of Mary Jones re: Allegories on race and racism (https://www.youtube.com/watch?v=GNhcY6fTyBM)

- Seattle & King County Racial Equity Toolkit to Assess Policies, Initiatives, Programs, and Budget Issues.https://www.seattle.gov/Documents/Departments/RSJI/RacialEquityToolkit_FINAL_August 2012.pdf
- Using Genetic Technologies To Reduce, Rather Than Widen, Health Disparities. Health Affairs, August 2016. <u>https://www.healthaffairs.org/doi/full/10.1377/hlthaff.2015.1476</u>

MODULE 2: Healthcare Systems and Delivery in the US and Globally

Each session will start with a short introduction of Module 2, topics 6-11, by the instructors or guest discussants, when appropriate.

Class exercises: These will be based on case studies and readings related to health care systems and healthcare delivery in the US and globally. This module will use case studies that emphasize different aspects of healthcare systems and delivery, such as the four types of delivery systems.

Individual assignments: Weekly assignments will be turned in at the start of class and address aspects of the case that will be discussed further in class. For example, students may be asked to address in a short written assignment, the cost of healthcare in different systems, quality of services, and/or issues around access to care.

Group assignments: In-class group exercises and group assignments will build towards five actionable items on how to improve the healthcare systems and delivery in the US or elsewhere more equitable, affordable and effective.

Quiz for module: At the end of module, there will be a short answer or multiple choice quiz taken in class.

Required and Suggested Readings (by topic 6-11):

Approaches to healthcare

- Thomas S. Bodenheimer and Kevin Grumbach. Understanding Health Policy: a Clinical Approach. (7th ed). New York: McGraw Hill, 2016. E-book available through UW Libraries
- Understanding and organizing health care systems, Chapter 11, Textbook of Global Health. Anne-Emanuelle Birn, Yogan Pillay, and Timothy H. Holtz. Oxford University Press, 2017.
- Systems thinking for health systems strengthening (Chapter 1), Editors de Savigny, Adam. WHO, 2009
- T.R. Reid: The Healing of America (Book used at HSERV511 covers approaches to care from a global perspective
- Ezekiel J. Emanuel, Reinventing American Health Care How the Affordable Care Act Will Improve Our Terribly Complex, Blatantly Unjust, Outrageously Expensive, Grossly Inefficient, Error Prone System. 2014. Public Affairs/Perseus Books Group

Quality and coverage

 Chapter 3 and 10 of the Prevention of Illness (Boddenheimer & Grumbach: Understanding Health Policy).

Implementation

Chapter 2, 4, 7, 8 and 9 - (Boddenheimer & Grumbach: Understanding Health Policy book.

 Cost-effectiveness of Universal BRCA1/2 Screening: Evidence-Based Decision Making, <u>https://jamanetwork.com/journals/jamaoncology/article-abstract/2432464</u>

Regulatory systems

- Doug Farquhar, "4. Legal Framework of Environmental Public Health in the United States", *Environmental Public Health: The Practitioner's Guide* DOI: <u>10.2105/9780875532943ch04</u>
- Medical Ethics and Rationing of Health Care Chapter 13. (Boddenheimer & Grumbach: Understanding Health Policy book.

Novel approaches to bridge healthcare and communities

- Chapter 11 of the Prevention of Illness (Boddenheimer & Grumbach: Understanding Health Policy).
- CDC Community-Clinical Linkages

Social class, racism, discrimination and privilege in healthcare systems and delivery

- IOM report Unequal Treatment Confronting Racial and Ethnic Disparities in Health Care. Selected chapter(s) from: <u>https://www.ncbi.nlm.nih.gov/books/NBK220358/</u>
- AJPH qualitative analysis on social class and health among African Americans <u>https://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.93.5.742</u>
- AJPH framework for racism_https://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.2005.077628

MODULE 3: Population Health: Past, Present and Future

Each session will start with a short introduction of Module 3, topics 12-16, by the instructors or guest discussants, when appropriate.

Class exercises: These will be based on case studies and readings related to population health in the past, present and future, and build on the public health and healthcare delivery concepts introduced in Modules 1 and 2. Additionally, this module will include 1-2 class sessions focused on inter-professional education (IPE). One of these will include a joint exercise with students from other professions, such as law, policy, social work, nursing, medicine and pharmacy. A second session may incorporate an instructor-led discussion of IPE and an exercise that encourages students to reflect as a group on the experience.

Individual assignments: Weekly assignments will be turned in at the start of class and address aspects of the case that will be discussed further in class. For example, students will be asked to complete self-assessments after their experience in the IPE group exercise; short essay to consider sources of morbidity data for non-reportable conditions in the US and in low and middle income countries.

Group assignments: In-class group exercises and group assignments will be case-based Additionally, for example, small group activity in class (assessed): compare and contrast data reliability of mortality statistics in comparison to morbidity statistics, using cancer incidence as an example of morbidity statistics.

Final paper: A final paper will be due at the end of the quarter that addresses a prompt (selected from among 3-4 different options) and demonstrates an understanding of key concepts in public health as they relate to challenges in healthcare delivery and population health.

Required and suggested readings:

Trends in Morbidity and Mortality

- Heart Disease Death Rates Among Blacks and Whites Aged ≥35 Years United States, 1968–2015 Surveillance Summaries / March 30, 2018 / 67(5);1–11 https://www.cdc.gov/mmwr/volumes/67/ss/ss6705a1.htm?s_cid=ss6705a1_w
- Gallaway MS, Henley SJ, Steele CB, et al. Surveillance for Cancers Associated with Tobacco Use — United States, 2010–2014. MMWR Surveill Summ 2018;67(No. SS-12):1–42. https://www.cdc.gov/mmwr/volumes/67/ss/ss6712a1.htm?s_cid=ss6712a1_w

History of public health and impact of globalization

- The development of the discipline of public health, Section 1, <u>Oxford Textbook of Global Public</u> <u>Health (6 ed.)</u> Edited by Roger Detels, Martin Gulliford, Quarraisha Abdool Karim, and Chorh Chuan Tan.
- Paul L. Knechtges, "1. Historical Overview of Professionalism in Environmental Public Health", Environmental Public Health: The Practitioner's Guide

- Political Economy of Health and Development, Chapter 3 (part), pp 89-109; Globalization, Trade, Work, and Health, Chapter 9 pp 377-424. Textbook of Global Health. Anne-Emanuelle Birn, Yogan Pillay, and Timothy H. Holtz. Oxford University Press, 2017.
- Sustainable development goals in the age of neoliberalism, Section A1, Global Health Watch 5: An alternative world health report. People's Health Movement, Zed Books, 2017
- Understanding models of globalization from the Alma-Ata to the neoliberal approach.
- Commentary: A brief history of folic acid in the prevention of neural tube defects, Nicholas J Wald, FRS, <u>https://academic.oup.com/ije/article/40/5/1154/660590</u>

Pragmatic challenges

- The Global Spine Care Initiative: public health and prevention interventions for common spine disorders in low- and middle-income communities. Bart N. Green, Claire D. Johnson, Scott Haldeman, et al. *European Spine Journal* (2018) 27 (Suppl 6):S838–S850. https://link.springer.com/content/pdf/10.1007%2Fs00586-018-5635-8.pdf
- Preventing Opioid Overdose in the Clinic and Hospital: Analgesia and Opioid Antagonists. Peglow SL, Binswanger IA. *Med Clin North Am.* 2018 Jul;102(4):621-634.

Diversity, equity, and inclusion

- A Note on the Biological Concept of Race and its application in Epidemiologic Research by Richard Cooper in Race, Ethnicity and Health: A Public Health Reader, THomas La Viest, Editor
- Cultural humility versus cultural competence: A critical distinction in defi... Melanie Tervalon; Jann Murray-Garcia Journal of Health Care for the Poor and Underserved; May 1998; 9, 2; Research Library p. 117
- Seattle & King County Racial Equity Toolkit to Assess Policies, Initiatives, Programs, and Budget Issues.https://www.seattle.gov/Documents/Departments/RSJI/RacialEquityToolkit_FINAL_August 2012.pdf
- A reading on anti-oppression framework or something that illustrates the importance of "nothing about us without us"
- Take two to three tests on <u>www.projectimplicit.org</u>

Classroom Climate

We Are a Learning Community. The development of a supportive learning environment is fundamental to this course. As a learner-centered classroom, we all have wisdom and experience to share. Students and instructors are expected to share their knowledge, comments, critiques, feedback, and alternate opinions. Our learning space is the mutual responsibility of the instructors and the students; as such, we have a responsibility to engage in dialogue in a way that supports learning for all of us. The co-creation of this respectful environment will be fostered by listening to views other than your own with an open mind, being able to understand and appreciate another person's point of view, and the ability to articulate your own point of view using direct, respectful communication. Being conscious of not monopolizing dialogue and/or interrupting will help create this environment as well.

We have the privilege of learning together and we have a responsibility to engage in dialogue in a way that supports learning for all of us. Here are some practices we as learning community members can strive to use in our learning process:

- My own viewpoint is important—share it. It will enrich others.
- My students' and colleagues' viewpoints are important—listen to them. Do not judge them.
- Extend the same listening respect to others I would wish them to extend to me. We all have room to grow to become better listeners in non-judgmental ways.
- Recognize that I might miss things others see and see things others might miss.

- Raise my views in such a way that I encourage others to raise theirs.
- Inquire into others' views while inviting them to inquire into mine.
- Ask questions when I don't understand something.
- Surface my feelings in such a way that can make it easier for others to surface theirs.
- Test my assumptions about how and why people say or do things.
- Challenge what was said or done, rather than make assumptions about the individual.
- Beware of either-or thinking.
- Be willing to take risks in moving outside my comfort zones.
- Affirm others.

Victoria Gardner, Assistant Dean of Diversity, Equity, and Inclusion, <u>vg@uw.edu</u>, is a resource for students with classroom climate concerns. Please also review the School of Public Health's <u>Student</u> <u>Concern Policy</u> for further guidance on addressing student concerns.

Course Policies

- Materials for this course will be provided on the Canvas web site. Students are expected to check the site frequently to keep up to date with the content and assignments.
- Please refrain from cell phone or other personal contact usage (email, text, etc.) during class time.
- Class preparation and participation are very important for success in this course. Please arrive on time and attend the entire class time. Instructors need to be notified in advance of any absence.
- It is the student's responsibility to obtain class materials if and when they are absent. Missing class does not excuse late assignments. Please contact the instructor(s) to request approval and for information on making up exams, homework, etc. It is at the discretion of the instructor to grant approval.
- The School of Public Health holds its faculty, staff, and students to the highest standards of professional conduct. In this class, it is expected that we will all:
 - o Listen carefully and respectfully, and not talk over one another
 - Share and teach each other generously
 - o Clarify the intent and impact of our comments
 - o Give and receive feedback in a relationship-building manner
 - o Work together to expand our knowledge by using high standards for evidence and analysis

Course Expectations

Students will learn best if they regularly complete their homework assignments on time, and actively participate during presentations, in classroom discussions, and in their small group work. In general, students who actively participate will do better in this class, both in terms of achieving the learning goals and in terms of their final grade. Given the interactive nature, we expect students to attend all or most classes in person. We do expect that students contribute to the group project while also allowing others to contribute. We also expect students present only their own work as theirs, and properly cite all intellectual content of others. We are confident all students who come prepared to class and engage with each other and the course material will be successful at achieving the course learning objectives.

Access and Accommodations

Your experience in this class is important to us, and it is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law. If you experience barriers based on a disability or temporary health condition, please seek a meeting with <u>Disability Resources for Students</u> (DRS) to discuss and address them. If you have already established accommodations with DRS, please communicate your approved accommodations to your instructor at your earliest convenience so we can discuss your needs in this course.

DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions. Reasonable accommodations are established through an interactive process between you, your instructor(s) and DRS. If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (this can include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact DRS at 206.543.8924 or <u>uwdrs@uw.edu</u> or <u>disability.uw.edu</u>.

Academic Integrity

Students at the University of Washington (UW) are expected to maintain the highest standards of academic conduct, professional honesty, and personal integrity. The UW School of Public Health (SPH) is committed to upholding standards of academic integrity consistent with the academic and professional communities of which it is a part. Plagiarism, cheating, and other misconduct are serious violations of the <u>UW Student Conduct Code</u> (WAC 478-120). We expect you to know and follow the university's policies on cheating and plagiarism, and the <u>SPH Academic Integrity Policy</u>. Any suspected cases of academic misconduct will be handled according to University of Washington regulations. For more information, see the <u>UW Community Standards and Student Conduct</u> web site.

Writing Skills Information

Writing is an important transferable skill and is important for all career pathways. Establishing a strong foundation in writing skills will help you be successful throughout your future course work and career. Therefore, this course includes several written assignments with the goal to help you identify areas of strength and improvement in your writing. However, if you feel you could benefit from additional opportunities to improve these skills, I have included below a list of resources at the UW and others accessible online.

UW Resources:

- Odegaard Writing and Research Center (<u>http://depts.washington.edu/owrc/</u>)
- OWRC English language support (<u>http://depts.washington.edu/owrc/english-language-support</u>)
- UW Libraries: Campus Writing Resources (<u>https://guides.lib.uw.edu/research/writing-resources</u>)
- UW Speaking Center (<u>http://www.com.washington.edu/speaking-center/</u>)
- CLUE late night writing center (<u>http://webster.uaa.washington.edu/asp/website/clue/writing-center/</u>)
- UW International and English Language Programs (<u>https://www.ielp.uw.edu/</u>)
- Foundation for International Understanding through Students (FIUTS) (<u>http://www.fiuts.washington.edu/</u>)

- Language Learning Center (https://depts.washington.edu/llc/
- Center for Teaching and Learning website, "Academic support for international and multilingual students" (<u>http://www.washington.edu/teaching/teaching-resources/inclusive-teaching-at-uw/teachingim-students/academic-support-for-im-students/</u>)

Online Resources:

- Purdue Online Writing Lab (OWL) (<u>https://owl.purdue.edu/owl/purdue_owl.html</u>)
- The Purdue Online Writing Lab: "ESL Students" (<u>https://owl.purdue.edu/owl/english_as_a_second_language/esl_students/index.html</u>)
- "Advice on Academic Writing" (University of Toronto) (<u>http://advice.writing.utoronto.ca/</u>)
- "Advice on Academic Writing: Using Sources" (<u>http://advice.writing.utoronto.ca/using sources/</u>)
- "Online resources for writers" (Amherst) (<u>https://www.amherst.edu/academiclife/support/writingcenter/resourcesforwriters</u>)
- University of North Carolina Writing Center, "Tips and Tools" (<u>https://writingcenter.unc.edu/tips-and-tools/);</u> "Editing and Proofreading" (<u>https://writingcenter.unc.edu/tips-and-tools/editing-and-proofreading/</u>)

UNIVERSITY of WASHINGTON SCHOOL OF PUBLIC HEALTH

Course Syllabus PHI 512, Analytic Skills for Public Health I Autumn 2020, 7 credits

Instructor: TBD Phone: TBD Email: TBD Office: TBD Office Hours: TBD

Time:

Class: (3x/week, 90 min) Lab: (1x/week, 2 hrs)

Location: TBD

Teaching Assistants: TBD Phone: TBD Email: TBD Office: TBD Canvas URL: TBD

Course Prerequisites

Office Hours: TBD

None

Course Description

To explore problems in public health/global health research and practice using both quantitative and qualitative methods, PHI 512 and PHI 513 will introduce mixed methods approaches to produce rigorous results. The importance of contextual understanding and integration of conceptual, theoretical, and methodological frameworks will be emphasized in the first of this two-part series. PHI 512 focuses on principles and methods of epidemiology and biostatistics, including: descriptive epidemiology, data summaries and presentation, study design, measures of excess risk, causal inference, screening, measurement error, misclassification, effect modification, confounding, confidence intervals, hypothesis testing, p-values, sample size calculation, and modeling approaches such as linear regression analysis. Includes hands-on data analysis. The material in this course will position students to continue with EPI 513 and BIOST 512 in the Winter Quarter should they seek more depth in their quantitative methods training.

Course Learning Objectives

After successfully completing this course, students will be able to:

- 1. List, define, and calculate measures and methods used in outbreak investigation, infectious disease epidemiology, chronic disease epidemiology, disease prevention trials, and evaluation of screening tests including major measures of disease frequency used in epidemiologic research and practice and measures of association between a given risk factor and a disease or health outcome.
- 2. Evaluate the integrity and comparability of data and identify gaps in data sources commonly used in epidemiologic research and practice
- 3. Design and interpret basic numeric and visual summaries of data
- 4. Describe and evaluate different study design types (both experimental and observational), including their strengths and limitations, and be able to choose and implement a study design to appropriately address a specific research question.
- 5. Explain the difference between population parameters and sample estimates
- 6. Describe the major sources of bias in epidemiologic research (confounding, selection bias, missing data and measurement error) and approaches to evaluate and reduce bias
- 7. Define the concept of probability, conditional probability and describe the assumptions underlying the binomial, Poisson and normal probability models
- 8. Design and conduct studies and statistical analyses in ways that support appropriate causal inference, including adjusting for simple confounders and addressing effect modifiers.
- 9. Translate a research question into a statistical model/hypothesis, conduct a hypothesis test, interpret the results (including p-values and confidence intervals for means, proportions, relative risks and odds ratios) and understand how sample size impacts these results.
- 10. Conduct, interpret and make predictions from a simple linear regression
- 11. Write a clear description of the rationale, methods, results and interpretation of a scientific investigation
- 12. Use R and associated tools for data input, cleaning, summarization, visualization, analysis and reproducibility

Textbooks & Readings

The following textbooks are required for this course (tentative):

• Merrill, RM. Fundamentals of Epidemiology and Biostatsitics. JB Learning, 2013.

The following textbooks are not required, but recommended if you intend to continue to Epi 513:

 Weiss NS and Koepsell TD. Epidemiologic Methods: Studying the Occurrence of Illness. 2nd Edition. Oxford University Press, 2014.

Learning Assessments & Grading

Final grades will be calculated as follows:

Assessment Item	Grade Percentage
Weekly online quizzes	10%
Weekly Homework (see below)	20%
Midterm Exam	25%
Final Exam	25%
Data Analysis Project	20%

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Homework can contribute up to 20 points towards your grade. Homework submissions that are complete, submitted on time, and represent the student's own work will receive credit even if some answers are incorrect. Credit will not be given for submissions that are incomplete (i.e., those that do not fully answer all parts of all questions on the problem set). If you hand in 85% or more of your homework on time as outlined above, then you will receive the maximum possible 20 pts towards your grade.

Students are encouraged to work together or in small groups on the homework problems. A good strategy is for everyone in the group to work on the problems individually and then get together to discuss the more difficult ones. However, the final version you hand in <u>should reflect your own interpretation and</u> <u>understanding</u>. That is, support and assistance with developing answers in encouraged; copying answers is not.

Course Outline

Week	Topics Covered
1-2	Case 1: Survey
	This case study will involve a survey primarily assessing a binary

This case study will involve a survey primarily assessing a binary outcome (eg. Whether or not the responder has health insurance). In addition, there will be categorical variables (eg. Race/ethnicity, categorized income level), and a single continuous variable (e.g. age).

<u>Key topics</u>: Study design; Sampling bias; Missing data; Measures of disease; Random Variables; Binary/Binomial RVs; Normal RVs; Parameters; Estimates; Data visualization (histograms, boxplots); Measures of center and spread; Data wrangling in R; Data analysis in R; Reproducibility

3-4

Case 2: Case-control study

This case study looks at a case-control study examining the association of obstructive sleep apnea with heavy vehicle crash risk, conducted in a population of long-distance truck drivers in Western Australia. A number of potential confounders/modifiers are measured.

<u>Key topics</u>: Case-control study design; Observational vs. experimental study design; Measures of excess risk; Probability; Conditional probability; Screening; Misclassification; Confounding; Mediation; Directed acyclic graphs

5-6

Case 3: Cohort study

This case study will involve a secondary analysis of the results from a randomized 2-arm clinical trial. There will be a continuous exposure (serum drug levels of Tenofovir used for preexposure prophylaxis to prevent HIV). The outcome will be disease rate (incidence rate HIV infection), measured in terms of person time from enrollment until HIV infection or the end of follow-up (either due to end of the study or loss to follow-up).

<u>Key topics</u>: Measures of disease; Incidence rates; Measures of excess risk; Effect modification; Graphical and tabular presentation of data; Measurement and measurement error; Selection bias due to loss-to-follow-up; Categorization of continuous variables; Sampling distributions; Confidence intervals; Hypothesis testing; Two-sample tests for binary data; Data wrangling in R; Data analysis in R.

Alternative dataset: Observational cohort such as Multicenter AIDS Cohort Study

6	Midterm Exam
7	Case 4: Randomized trial This case study will use data from a longitudinal randomized trial of a virtual reality intervention to reduce acrophobia (fear of heights). The primary outcome is the Heights Interpretation Questionnaire (HIQ) score, a continuous outcome, measured at baseline, end of treatment and one year after end of treatment. In addition to treatment arm, the dataset includes sex and age. Key topics: Data description and visualization; Measures of spread and location; Study design; Experimental vs observational; Confidence intervals; One and two-sample tests for continuous data; Effect Modification for a continuous outcome; Data analysis in R; Power and Sample Size.
8-9	Case 5: Field Study
0-3	This case study is designed to determine whether the presence of water bottle refilling stations across campus shifts students towards i) drinking more water rather than sweetened beverages and ii) using refillable rather than disposable water bottles. The case requires students (in groups) to carefully define a scientific question, design an observational field research study to answer that question, collect data, analyze the data and write up the results (could form the basis for final project).
	<u>Key topics</u> : Measures of disease frequency; Measures of association; Descriptive summaries of data; Translating a research question into a statistical hypothesis; Conditional probability; Probability models; Causal inference and confounding; Confidence intervals; Hypothesis testing; Data wrangling in R; Data analysis in R
10	Case 6: Regression
	This case study looks at pulmonary forced expiratory volume (FEV) from a cross-sectional sample of 654 children aged 3 – 19. We are interested in the relationship between FEV and age (or height) and between FEV and smoking status (which is confounded by age). Sex is also included in the dataset.
	<u>Key topics</u> : Data description and visualization; Measures of spread and location; Confidence intervals; Two-sample tests for continuous data; Correlation; Simple linear regression; Prediction and prediction intervals; Confounding; Data transformation (maybe); Data analysis in R.
	<i>Note:</i> Since the FEV dataset is used in BIOST 512, it is preferable to use a different dataset for this case study.

Alternative dataset: WHO World Health Statistical Information System
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10	Final Data Analysis Project Due	
11	Final Exam	

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- My students' and colleagues' viewpoints are important—listen to them. Do not judge them.
- Extend the same listening respect to others I would wish them to extend to me. We all have room to
 grow to become better listeners in non-judgmental ways.
- Recognize that I might miss things others see and see things others might miss.
- Raise my views in such a way that I encourage others to raise theirs.
- Inquire into others' views while inviting them to inquire into mine.
- Ask questions when I don't understand something.
- Surface my feelings in such a way that can make it easier for others to surface theirs.
- Test my assumptions about how and why people say or do things.
- Challenge what was said or done, rather than make assumptions about the individual.
- Beware of either-or thinking.
- Be willing to take risks in moving outside my comfort zones.
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- It is the student's responsibility to obtain class materials if and when they are absent. Missing class
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 - o Share and teach each other generously
 - o Clarify the intent and impact of our comments
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 - o Work together to expand our knowledge by using high standards for evidence and analysis

Course Expectations

Students will learn best if they regularly complete their homework assignments on time, and actively participate during presentations, in classroom discussions, and in their small group work. In general, students who actively participate will do better in this class, both in terms of achieving the learning goals and in terms of their final grade. Given the interactive nature, we expect students to attend all or most classes in person. We do expect that students contribute to the group project while also allowing others to contribute. We also expect students present only their own work as theirs, and properly cite all intellectual content of others. We are confident all students who come prepared to class and engage with each other and the course material will be successful at achieving the course learning objectives.

Access and Accommodations

Your experience in this class is important to us, and it is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law. If you experience barriers based on a disability or temporary health condition, please seek a meeting with <u>Disability Resources for Students</u> (DRS) to discuss and address them. If you have already established accommodations with DRS, please communicate your approved accommodations to your instructor at your earliest convenience so we can discuss your needs in this course.

DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions. Reasonable accommodations are established through an interactive process between you, your instructor(s) and DRS. If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (this can include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact DRS at 206.543.8924 or <u>uwdrs@uw.edu</u> or <u>disability.uw.edu</u>.

Academic Integrity

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Writing Skills Information

Writing is an important transferable skill and is important for all career pathways. Establishing a strong foundation in writing skills will help you be successful throughout your future course work and career. Therefore, this course includes several written assignments with the goal to help you identify areas of strength and improvement in your writing. However, if you feel you could benefit from additional opportunities to improve these skills, I have included below a list of resources at the UW and others accessible online.

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- OWRC English language support (<u>http://depts.washington.edu/owrc/english-language-support</u>)
- UW Libraries: Campus Writing Resources (<u>https://guides.lib.uw.edu/research/writing-resources</u>)
- UW Speaking Center (<u>http://www.com.washington.edu/speaking-center/</u>)
- CLUE late night writing center (<u>http://webster.uaa.washington.edu/asp/website/clue/writing-center/</u>)
- UW International and English Language Programs (<u>https://www.ielp.uw.edu/</u>)
- Foundation for International Understanding through Students (FIUTS) (<u>http://www.fiuts.washington.edu/</u>)
- Language Learning Center (<u>https://depts.washington.edu/llc/</u>
- Center for Teaching and Learning website, "Academic support for international and multilingual students" (<u>http://www.washington.edu/teaching/teaching-resources/inclusive-teaching-at-uw/teaching-im-students/academic-support-for-im-students/</u>)

Online Resources:

- Purdue Online Writing Lab (OWL) (<u>https://owl.purdue.edu/owl/purdue_owl.html</u>)
- The Purdue Online Writing Lab: "ESL Students" (<u>https://owl.purdue.edu/owl/english as a second_language/esl_students/index.html</u>)
- "Advice on Academic Writing" (University of Toronto) (<u>http://advice.writing.utoronto.ca/</u>)
- "Advice on Academic Writing: Using Sources" (<u>http://advice.writing.utoronto.ca/using sources/</u>)
- "Online resources for writers" (Amherst) (<u>https://www.amherst.edu/academiclife/support/writingcenter/resourcesforwriters</u>)
- University of North Carolina Writing Center, "Tips and Tools" (<u>https://writingcenter.unc.edu/tips-and-tools/editing-and-tools/editing-and-proofreading/</u>);

UNIVERSITY of WASHINGTON SCHOOL OF PUBLIC HEALTH

Course Syllabus PHI 513, Analytic Skills for Public Health II Winter 2021, 3 credits

Instructor: TBD Phone: TBD Email: TBD Office: TBD Office Hours: TBD Time: (2x/week @ 80 min)

Location: TBD

Canvas URL: TBD

Teaching Assistants: TBD Phone: TBD Email: TBD Office: TBD Office Hours: TBD

Course Prerequisites

- PHI 511: Foundations of Public Health
- PHI 512: Analytic Skills for Public Health I

Course Description

This course will introduce qualitative and mixed methods and their relevance to rigorous public health research and practice. This course places a strong emphasis on qualitative data analysis as an integral dimension of the mixed-methods approach. The first part of the course will describe contexts for and types of qualitative research questions, introduce frameworks, study designs and sampling approaches in qualitative research, and apply methods for data collection and analysis. The second part of this course focuses on mixed methods research and the integration of quantitative measures of magnitude and frequency with qualitative measures of meaning to produce rich contextual understandings of complex behaviors, cultures, and characteristics. The third part of the course focuses on strength of evidence, distinguishes and draws parallels between implementation and discovery science; and describes alternative study designs in the context of implementation science.

Course Learning Objectives

After successfully completing this course, students will be able to:

- 1. Define qualitative, mixed methods, and alternative quantitative study designs and select an appropriate study design to address a defined question.
- 2. Explain purposive sampling and its relevance to qualitative data collection.
- 3. Demonstrate how to develop a qualitative focus group and interview guide, conduct qualitative data collection, and develop and apply a qualitative codebook.
- 4. Explain how to establish coding validity and reliability.
- 5. Conduct a thematic analysis and explain concept saturation.
- 6. Demonstrate how to report qualitative results and develop a dissemination strategy.
- 7. Demonstrate fluency with implementation science terms and objectives and distinguish between discovery science and implementation science research.
- 8. Critically review the relevant scientific and 'gray' literature, synthesize the findings across studies and sources of evidence, and position the evidence along the continuum from discovery research to programmatic scaleup.

Textbooks & Readings

Example readings include:

Module 1: Qualitative Methods

- Tolley EE, Ulin PR, Mack N, Succop SM, Robinson ET. Qualitative Methods in Public Health. John Wiley & Sons; 2016
- Krueger RA, Casey MA. Focus groups: A practical guide for applied research. Sage publications; 2014
- Hermanowicz JC. The great interview: 25 strategies for studying people in bed. Qualitative sociology. 2002;25:479-499.
- O'brien BC, Harris IB, Beckman TJ, Reed DA, Cook DA. Standards for reporting qualitative research: a synthesis of recommendations. Academic Medicine. 2014;89:1245-1251.
- Tong A, Sainsbury P, Craig J. Consolidated criteria for reporting qualitative research (COREQ): a 32item checklist for interviews and focus groups. International journal for quality in health care. 2007;19:349-357.

Module 2: Integrating Analytic Methods to Understand and Solve Health Challenges

- Lau J, Ioannidis JPA, Schmid CH. Summing up evidence: one answer is not always enough. Lancet 1998;351:123-7.
- Armstrong-Moore R, Haighton C, Davinson N, Ling J. Interventions to reduce the negative effects of alcohol consumption in older adults: a systematic review. BMC Public Health. 2018;18:302.
- Fetters MD, Curry LA, Creswell JW. Achieving integration in mixed methods designs-principles and practices. Health Serv Res. 2013;48:2134-56.

Module 3: Assessing evidence, alternative study designs, and introduction to implementation science

- Loudon K, Treweek S, Sullivan F, Donnan P, Thorpe KE, Zwarenstein M. The PRECIS-2 tool: designing trials that are fit for purpose. BMJ. 2015;350:h2147.
- Brown CH, Curran G, Palinkas LA, Aarons GA, Wells KB, Jones L, Collins LM, Duan N, Mittman BS, Wallace A, Tabak RG, Ducharme L, Chambers DA, Neta G, Wiley T, Landsverk J, Cheung K, Cruden

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G. An Overview of Research and Evaluation Designs for Dissemination and Implementation. Annu Rev Public Health. 2017;38:1-22.

- Hemming K, Eldridge S, Forbes G, Weijer C, Taljaard M. How to design efficient cluster randomised trials. BMJ. 2017;358:j3064.
- Fok CC, Henry D, Allen J. Research Designs for Intervention Research with Small Samples II: Stepped Wedge and Interrupted Time-Series Designs. Prev Sci. 2015;16(7):967-77.
- Inwani I, Chhun N, Agot K, Cleland CM, Buttolph J, Thirumurthy H, Kurth AE. High-Yield HIV Testing, Facilitated Linkage to Care, and Prevention for Female Youth in Kenya (GIRLS Study): Implementation Science Protocol for a Priority Population. JMIR Res Protoc. 2017;6(12):e179.
- Smith LM, Kaufman JS, Strumpf EC, Lévesque LE. Effect of human papillomavirus (HPV) vaccination on clinical indicators of sexual behaviour among adolescent girls: the Ontario Grade 8 HPV Vaccine Cohort Study. CMAJ. 2015;187(2):E74-81.
- Neta G, Brownson RC, Chambers DA. Opportunities for Epidemiologists in Implementation Science: A Primer. Am J Epidemiol. 2018;187:899-910.
- Gimbel S, Rustagi AS, Robinson J, et al. Evaluation of a Systems Analysis and Improvement Approach to Optimize Prevention of Mother-To-Child Transmission of HIV Using the Consolidated Framework for Implementation Research. J Acquir Immune Defic Syndr. 2016;72 Suppl 2:S108-16.
- Tabak RG, Khoong EC, Chambers DA, Brownson RC. Bridging research and practice: models for dissemination and implementation research. Am J Prev Med. 2012;43:337-50.

Learning Assessments & Grading

Final grades will be calculated as follows:

Assessment Item	Grade Percentage
Participation (discussion boards, small group engagement)	10%
Homework (credit/no-credit)	25%
Weekly timed quizzes (scored, low stakes)	15%
Qualitative data collection and analysis assignments	25%
Final project (individual)	25%

Homework can contribute up to 25 percent towards your grade. Homework submissions that are complete, submitted on time, and represent the student's own work will receive credit even if some answers are incorrect. Credit will not be given for submissions that are incomplete (i.e., those that do not fully answer all parts of all questions on the problem set). If you hand in 85% or more of your homework on time as outlined above, then you will receive the maximum possible 20 percent towards your grade.

Students are encouraged to work together or in small groups on the homework problems. A good strategy is for everyone in the group to work on the problems individually and then get together to discuss the more difficult ones. However, the final version you hand in **should reflect your own interpretation and understanding**. That is, support and assistance with developing answers in encouraged; copying answers is not.

Session	Topic Covered Activities/Assessments/Assignments	
	MODULE 1: Qualitative Methods (13 sessions)	
1	Limitations of quantitative research and the need for qualitative methods and mixed designs	
2	Frameworks for qualitative research	
3	Qualitative Methods	
4-6	Data Collection: Asking questions, Interviews and Focus Groups	
Qualitative data exercise 1 due		
7	Purposive Sampling	
Qualitative data exercise 2 due		
8-9	Qualitative Data AnalysisUsing computer software	
10-11	Coding, Interpretation, Inter-coder reliability	
	Qualitative data exercise 3 due	
12-13	Displaying data, writing results, and dissemination	
MOD	ULE 2: Integrating Analytic Methods to Understand and Solve Health Challenges (3 sessions)	
14	Mixed methods/iterative qualitative and quantitative	
15	Examples and best practices	
16	Summarizing, reporting, and dissemination	
MODULE	3: Assessing evidence, alternative study designs, and introduction to IS (4 sessions)	
17	Strength of evidence, systematic reviews	
18-19	Alternative study designs - including levels of intervention and effect	
20	Introduction to implementation science	
	Final project due	

Course Outline

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- UW International and English Language Programs (<u>https://www.ielp.uw.edu/</u>)
- Foundation for International Understanding through Students (FIUTS) (<u>http://www.fiuts.washington.edu/</u>)
- Language Learning Center (https://depts.washington.edu/IIc/
- Center for Teaching and Learning website, "Academic support for international and multilingual students" (<u>http://www.washington.edu/teaching/teaching-resources/inclusive-teaching-at-uw/teaching-im-students/academic-support-for-im-students/</u>)

Online Resources:

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- "Advice on Academic Writing" (University of Toronto) (<u>http://advice.writing.utoronto.ca/</u>)
- "Advice on Academic Writing: Using Sources" (<u>http://advice.writing.utoronto.ca/using sources/</u>)
- "Online resources for writers" (Amherst) (<u>https://www.amherst.edu/academiclife/support/writingcenter/resourcesforwriters</u>)
- University of North Carolina Writing Center, "Tips and Tools" (<u>https://writingcenter.unc.edu/tips-and-tools/);</u> "Editing and Proofreading" (<u>https://writingcenter.unc.edu/tips-and-tools/editing-and-proofreading/</u>)

UNIVERSITY of WASHINGTON SCHOOL OF PUBLIC HEALTH

Course Syllabus PHI 514, Determinants of Health Winter 2021, 3 credits

Instructor: TBD Phone: TBD Email: TBD Office: TBD Office Hours: TBD Time: (2x/week @ 1.5 hours)

Location: TBD

Canvas URL: TBD

Teaching Assistants: TBD Phone: TBD Email: TBD Office: TBD Office Hours: TBD

Course Prerequisites

- PHI 511: Foundations of Public Health
- PHI 512: Analytic Skills for Public Health I

Course Description

Many factors combine and interact to affect the health of individuals and communities. This course will describe and apply frameworks for understanding determinants of health at multiple levels and within different systems. Course material will emphasize individual- and family-level determinants, physical and social environments, population-level determinants, and systems dynamics. Students will learn how to apply theory and how to interpret and weigh evidence to identify and prioritize health determinants for public health research, practice, and policy.

Course Learning Objectives

After successfully completing this course, students will be able to:

- 1. Recognize and discuss major determinants of health in relation to trends of morbidity and mortality
- 2. Interpret findings of research studies and explain the value of evidence in evaluating the impact of health determinants.
- 3. Identify and examine how structural bias, social and other inequities, and racism undermine health and create challenges to achieving health equity at organizational, community and societal levels
- 4. Apply systems thinking to explain an ecological perspective on the connections among human health, animal health, and ecosystem health
- 5. Examine how policies impact public health and health equity

Textbooks & Readings

The following textbooks/readings are recommended, but not required:

- Frumkin H, ed. Environmental health: From global to local. John Wiley & Sons; 2016 Feb.
- Reimagining Global Health: An Introduction. 2013. Paul Farmer, Jim Yong Kim, Arthur Kleinman, and Matthew Basilico. University of California Press: Berkeley and Los Angeles (selected chapters on understanding global processes and health).
- Textbook of International Health: Global Health in a Dynamic World. 2009. Anne-Imanuelle Birn, Yogan Pillay, and Timothy Holtz. Oxford University Press: Oxford. (chapter on social determinants and other chapters on global policies and historical roots of global inequities).
- K. Glanz, B.K. Rimer & K. Viswanath (Eds.), *Health Behavior and Health Education: Theory, Research, and Practice*, (4th ed). San Francisco: Jossey-Bass Publishers. (selected chapters)

Learning Assessments & Grading

Final grades will be calculated as follows:

Assessment Item	Grade Percentage
Written Paper	30%
Choose one determinant of health and a health outcome. Briefly summarize	
what is known about the relationship between that determinant and the health	
outcome you have chosen. Draw and describe conceptual model linking your	
determinant to the health outcome and describe at least two pathways linking	
the two. These may be pathways that have been empirically tested or potential	
pathways based on theory or other related research. Your paper should draw	
on both assigned readings and your own independent research. The	
assignment should be 4-5 double spaced pages.	
Group Presentation	25%
In a 5-10 minute group oral presentation in class, describe how structural bias	
impacts a health outcome and identify potential solutions.	
Cumulative Class Project	30%
Use one of the frameworks discussed in the course to describe the impact of	
multiple determinants on a specific health outcome.	

Class Participation and Activities:

In lectures and discussions, active participation is required. Students are asked to come to class prepared to engage in discussions, conduct quick writes, work in groups, and other activities. In some cases, students will be asked to turn inclass assignments in at the end of class or on canvas. At the end of class, students will also be asked to evaluate the participation of other students in assigned groups. In terms of attendance, students should prepare for the unexpected (e.g., always try to attend so that if something happens, such as an illness later in quarter, there is already a buffer). Any personal plans (e.g., flight arrangements) should be scheduled during the regular quarterly breaks in order to avoid unexcused absences.

Course Outline

MODULE 1: Setting the Stage: Hazards, Risks, Systems, and Frameworks (4 class sessions or 6 contact hours)

Topics:

- Introduction to relevant terms and their definitions, including: health, hazard, health equity, health disparities, risk, exposure, vulnerability, prevention, systems, and ecology
- Introduction to ecological and systems thinking, complex adaptive systems, and integrated approaches to studying and protecting health across disciplines and scales
- Introduction to frameworks and mental models for understanding and advancing population health and to strategies for integrating systems thinking with major frameworks and paradigms in public health
- Introduction to the risk paradigm and its core tenets, characterization of the path from hazard exposure to disease, risk assessment, metrics and expressions of risk, and Rose's "prevention paradoxes"
- Introduction to specific central frameworks, including the socio-ecological framework and planetary health, and to the interplay between theory and practice
- Introduction to evaluation and use of evidence related to determinants of health

- Kindig D, Stoddart G. What is population health? American journal of public health. 2003 Mar;93(3):380-3.
- Syme SL, Balfour JL. Social determinants of disease. In: Wallace RB, ed. *Public Health and Preventive Medicine*. 14th ed. Stamford, Conn: Appleton & Lange; 1998:795.
- Glanz K, Bishop DB. The role of behavioral science theory in development and implementation of public health interventions. Annual review of public health. 2010 Apr 21;31:399-418.
- Rose G. Sick individuals and sick populations. International journal of epidemiology. 2001 Jun 1;30(3):427-32.
- Series of YouTube videos on complex adaptive systems, currently used in ENVH 511
- Trochim WM, Cabrera DA, Milstein B, Gallagher RS, Leischow SJ. Practical challenges of systems thinking and modeling in public health. American journal of public health. 2006 Mar;96(3):538-46.
- Dooley KJ. A complex adaptive systems model of organization change. Nonlinear dynamics, psychology, and life sciences. 1997 Jan 1;1(1):69-97.

- Frieden TR. (2010). A framework for public health action: the health impact pyramid. American Journal of Public Health. 100(4): 590-595. <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2836340/</u>
- Whitmee S, Haines A, Beyrer C, Boltz F, Capon AG, de Souza Dias BF, Ezeh A, Frumkin H, Gong P, Head P, Horton R. Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation–Lancet Commission on planetary health. The Lancet. 2015 Nov 14;386(10007):1973-2028.
- Green LW & Kreuter MW. (2010). Evidence hierarchies vs. synergistic interventions. American Journal of Public Health. 100(10): 1824-5. <u>https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2936990/</u>
- Rooney AA, Boyles AL, Wolfe MS, Bucher JR, Thayer KA. Systematic review and evidence integration for literature-based environmental health science assessments. Environmental health perspectives. 2014 Jul;122(7):711.

MODULE 2: Individual and Interpersonal Determinants (4 class sessions or 6 contact hours)

Topics:

- Introduction to individual and interpersonal level determinants, including genetic, behavioral
- Interactions between determinants in various interpersonal contexts (e.g., families, peers)
- Impact of individual and interpersonal level determinants on health behaviors (including relevant theories, such as Health Belief Model, Stage Theories, Social Networks and Social Support)
- Introduction to connections between individual and interpersonal level determinants and interactions with other factors like the physical environment

- Cox MJ, Paley B. Families as systems. Annual review of psychology. 1997 Feb;48(1):243-67.
- Ross LE, Dobinson C, Eady A. Perceived determinants of mental health for bisexual people: A qualitative examination. American journal of public health. 2010 Mar;100(3):496-502.
- Bauman AE, Reis RS, Sallis JF, Wells JC, Loos RJ, Martin BW, Lancet Physical Activity Series Working Group. Correlates of physical activity: why are some people physically active and others not?. The lancet. 2012 Jul 21;380(9838):258-71.
- Giles-Corti B, Donovan RJ. Relative influences of individual, social environmental, and physical environmental correlates of walking. American journal of public health. 2003 Sep;93(9):1583-9.
- Auchincloss AH, Diez Roux AV. A new tool for epidemiology: the usefulness of dynamic-agent models in understanding place effects on health. American journal of epidemiology. 2008 May 13;168(1):1-8.
- Theory at a Glance, National Cancer Institute
 <u>http://www.sbccimplementationkits.org/demandrmnch/wp-content/uploads/2014/02/Theory-at-a-Glance-A-Guide-For-Health-Promotion-Practice.pdf</u>
- K. Glanz, B.K. Rimer & K. Viswanath (Eds.), *Health Behavior and Health Education: Theory, Research, and Practice*, (4th ed., pp. 189-207). San Francisco: Jossey-Bass Publishers. (selected chapters)
- Thoits PA. Mechanisms linking social ties and support to physical and mental health. J Health Soc Behav. 2011 Jun;52(2):145-61. doi: 10.1177/0022146510395592. Review. PubMed PMID: 21673143.

MODULE 3: Physical Environment and Neighborhood Level Determinants (4 class sessions or 6 contact hours)

Topics:

- Environmental hazards, environmental media, routes of exposure, and dose-response functions
- Case studies of chemical, physical, biologic, and other hazards in specific contexts, including
 potentially arsenic in South Asia, pesticides in food, particulates in air, and heat in the workplace
- Cross-sectional and longitudinal associations between place and health at middle scales (neighborhood to region)
- Principal determinants of health at middle scales, including demographics, wealth, health care access, education, fertility, and social capital
- Interactions between determinants at the fine and middle scales
- Relevant theories and models of health promotion, change management, innovation, and implementation at the middle scale, including diffusion of innovation, organizational change, community development, community organizing, composition vs. context

- Nweke OC, Sanders III WH. Modern environmental health hazards: a public health issue of increasing significance in Africa. Environmental Health Perspectives. 2009 Jun;117(6):863.
- Jokela M. Are neighborhood health associations causal? A 10-year prospective cohort study with repeated measurements. American journal of epidemiology. 2014 Sep 26;180(8):776-84.
- Curl CL, Fenske RA, Elgethun K. Organophosphorus pesticide exposure of urban and suburban preschool children with organic and conventional diets. Environmental health perspectives. 2003 Mar;111(3):377.
- Prepared readings and videos on arsenic in South Asia, pesticides in food, air pollution, and heat in the workplace from ENV H 511
- Selected readings from Frumkin, Environmental Health: From Global to Local, including chapters on Toxicology, Exposure Assessment, and Water and Health.
- K. Glanz, B.K. Rimer & K. Viswanath (Eds.), *Health Behavior and Health Education: Theory, Research, and Practice*, (4th ed., pp. 189-207). San Francisco: Jossey-Bass Publishers. (selected chapters)
- Diez Roux, A. V. (2016). Neighborhoods and Health: What Do We Know? What Should We Do? American Journal of Public Health, 106(3), 430–431.
- Anna Zajacova and Elizabeth M. Lawrence. The Relationship Between Education and Health: Reducing Disparities Through a Contextual Approach. Annual Review of Public Health 2018 39:1, 273-289
- Morello-Frosch R and Shenassa ED. The environmental "riskscape" and social inequality: implications for explaining maternal and child health disparities. Environ Health Perspect, 2006. 114(8): 1150-3.
- Elo IT. 2009. Social class differentials in health and mortality: Patterns and explanations in comparative perspective. Annu Rev Sociol 35:553-572.
- Mehra R, Boyd LM, Ickovics JR. Racial residential segregation and adverse birth outcomes: A systematic review and meta-analysis. Soc Sci Med. 2017 Oct;191:237-250. doi: 10.1016/j.socscimed.2017.09.018. Epub 2017 Sep 11.

MODULE 4: Population and Global Level Determinants and Synthesis (4 class sessions or 6 contact hours)

Topics:

- Large scale social determinants of health including structural racism and bias
- Development trajectories, the epidemiological and environmental risk transitions, and health
- Climate change and other planetary health challenges
- Synthesis of determinants of health at different scales and over time: case studies of different synthetic approaches

- Link BG, Phelan JC. Stigma and its public health implications. The Lancet. 2006 Feb 11;367(9509):528-9.
- Murray CJ, Kulkarni SC, Michaud C, Tomijima N, Bulzacchelli MT, Iandiorio TJ, Ezzati M. Eight Americas: investigating mortality disparities across races, counties, and race-counties in the United States. PLoS medicine. 2006 Sep 12;3(9):e260.
- Smith KR, Ezzati M. How environmental health risks change with development: the epidemiologic and environmental risk transitions revisited. Annu. Rev. Environ. Resour.. 2005 Nov 21;30:291-333.
- Frumkin H, Haines A. Global Environmental Change and Noncommunicable Disease Risks. Annual review of public health. 2019 Jan 11;40.
- Rabinowitz PM, Pappaioanou M, Bardosh KL, Conti L. A planetary vision for one health. BMJ global health. 2018 Oct 1;3(5):e001137.
- Ji JS, Zhu A, Bai C, Wu CD, Yan L, Tang S, Zeng Y, James P. Residential greenness and mortality in oldest-old women and men in China: a longitudinal cohort study. The Lancet Planetary Health. 2019 Jan 1;3(1):e17-25.
- Forman F, Solomon G, Pezzoli K, Morello-Frosch R. Bending the Curve and Closing the Gap: Climate Justice and Public Health.
- Guo L, Luo J, Yuan M, Huang Y, Shen H, Li T. The influence of urban planning factors on PM2. 5 pollution exposure and implications: A case study in China based on remote sensing, LBS, and GIS data. Science of The Total Environment. 2019 Apr 1;659:1585-96.
- Algunaibet IM, Fernández CP, Galán-Martín Á, Huijbregts MA, Mac Dowell N, Guillén-Gosálbez G. Powering sustainable development within planetary boundaries. Energy & Environmental Science. 2019.
- Fanning AL, O'Neill DW. The Wellbeing–Consumption paradox: Happiness, health, income, and carbon emissions in growing versus non-growing economies. Journal of Cleaner Production. 2019 Mar 1;212:810-21.
- Watts N, Adger WN, Agnolucci P, Blackstock J, Byass P, Cai W, Chaytor S, Colbourn T, Collins M, Cooper A, Cox PM. Health and climate change: policy responses to protect public health. The Lancet. 2015 Nov 7;386(10006):1861-914.
- Fullman N, Barber RM, Abajobir AA, Abate KH, Abbafati C, Abbas KM, Abd-Allah F, Abdulkader RS, Abdulle AM, Abera SF, Aboyans V. Measuring progress and projecting attainment on the basis of past trends of the health-related Sustainable Development Goals in 188 countries: an analysis from the Global Burden of Disease Study 2016. The Lancet. 2017 Sep 16;390(10100):1423-59.
- Hicken, M. T., Kravitz-Wirtz, N., Durkee, M., & Jackson, J. S. (2018). Racial inequalities in health: Framing future research. Social Science & Medicine, 199(C), 11-18.
- Came, H., & Griffith, D. (2018). Tackling racism as a "wicked" public health problem: Enabling allies in anti-racism praxis. *Social Science & Medicine*, *199*, 181-188.

- Williams DR and Collins C. 2001. Racial residential segregation: a fundamental cause of racial disparities in health. Public Health Reports 116:404-16.
- Viruell-Fuentes EA, Miranda PY, Abdulrahim S. More than culture: Structural racism, intersectionality theory, and immigrant health. Social Science Medicine, 2012, 75(12):2099-106.
- National Academies of Sciences, Engineering, and Medicine; Health and Medicine Division; Board on Population Health and Public Health Practice; Committee on Community-Based Solutions to Promote Health Equity in the United States; Baciu A, Negussie Y, Geller A, et al., editors. Communities in Action: Pathways to Health Equity. Washington (DC): National Academies Press (US); 2017 Jan 11.
 3, The Root Causes of Health Inequity.
- Osypuk TL, Joshi P, Geronimo K, Acevedo-Garcia D. Do Social and Economic Policies Influence Health? A Review. Curr Epidemiol Rep. 2014 Sep 1;1(3):149-164.
- Hicken M, Gragg R, Hu H. How cumulative risks warrant a shift in our approach to racial health disparities: the case of lead, stress, and hypertension. Health Aff (Millwood). 2011 Oct;30(10):1895-901. doi: 10.1377/hlthaff.2010.1241. Glymour MM. Policies as tools for research and translation in social epidemiology. Social Epidemiology. 2014 Jul 9:452-77.
- Raifman J, Moscoe E, Austin SB, McConnell M. Difference-in-differences analysis of the association between state same-sex marriage policies and adolescent suicide attempts. JAMA pediatrics. 2017 Apr 1;171(4):350-6.

Classroom Climate

We Are a Learning Community. The development of a supportive learning environment is fundamental to this course. As a learner-centered classroom, we all have wisdom and experience to share. Students and instructors are expected to share their knowledge, comments, critiques, feedback, and alternate opinions. Our learning space is the mutual responsibility of the instructors and the students; as such, we have a responsibility to engage in dialogue in a way that supports learning for all of us. The co-creation of this respectful environment will be fostered by listening to views other than your own with an open mind, being able to understand and appreciate another person's point of view, and the ability to articulate your own point of view using direct, respectful communication. Being conscious of not monopolizing dialogue and/or interrupting will help create this environment as well.

We have the privilege of learning together and we have a responsibility to engage in dialogue in a way that supports learning for all of us. Here are some practices we as learning community members can strive to use in our learning process:

- My own viewpoint is important—share it. It will enrich others.
- My students' and colleagues' viewpoints are important—listen to them. Do not judge them.
- Extend the same listening respect to others I would wish them to extend to me. We all have room to
 grow to become better listeners in non-judgmental ways.
- Recognize that I might miss things others see and see things others might miss.
- Raise my views in such a way that I encourage others to raise theirs.
- Inquire into others' views while inviting them to inquire into mine.
- Ask questions when I don't understand something.
- Surface my feelings in such a way that can make it easier for others to surface theirs.
- Test my assumptions about how and why people say or do things.
- Challenge what was said or done, rather than make assumptions about the individual.
- Beware of either-or thinking.

- Be willing to take risks in moving outside my comfort zones.
- Affirm others.

Victoria Gardner, Assistant Dean of Diversity, Equity, and Inclusion, <u>vg@uw.edu</u>, is a resource for students with classroom climate concerns. Please also review the School of Public Health's <u>Student</u> <u>Concern Policy</u> for further guidance on addressing student concerns.

Course Policies

- Materials for this course will be provided on the Canvas web site. Students are expected to check the site frequently to keep up to date with the content and assignments.
- Please refrain from cell phone or other personal contact usage (email, text, etc.) during class time.
- Class preparation and participation are very important for success in this course. Please arrive on time and attend the entire class time. Instructors need to be notified in advance of any absence.
- It is the student's responsibility to obtain class materials if and when they are absent. Missing class
 does not excuse late assignments. Please contact the instructor(s) to request approval and for
 information on making up exams, homework, etc. It is at the discretion of the instructor to grant
 approval.
- The School of Public Health holds its faculty, staff, and students to the highest standards of professional conduct. In this class, it is expected that we will all:
 - o Listen carefully and respectfully, and not talk over one another
 - Share and teach each other generously
 - o Clarify the intent and impact of our comments
 - o Give and receive feedback in a relationship-building manner
 - o Work together to expand our knowledge by using high standards for evidence and analysis

Course Expectations

Students will learn best if they regularly complete their homework assignments on time, and actively participate during presentations, in classroom discussions, and in their small group work. In general, students who actively participate will do better in this class, both in terms of achieving the learning goals and in terms of their final grade. Given the interactive nature, we expect students to attend all or most classes in person. We do expect that students contribute to the group project while also allowing others to contribute. We also expect students present only their own work as theirs, and properly cite all intellectual content of others. We are confident all students who come prepared to class and engage with each other and the course material will be successful at achieving the course learning objectives.

Access and Accommodations

Your experience in this class is important to us, and it is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law. If you experience barriers based on a disability or temporary health condition, please seek a meeting with <u>Disability Resources for Students</u> (DRS) to discuss and address them. If you have already established accommodations with DRS, please communicate your approved accommodations to your instructor at your earliest convenience so we can discuss your needs in this course.

Course Syllabus, PHI 514, Winter 2021

DRS offers resources and coordinates reasonable accommodations for students with disabilities and/or temporary health conditions. Reasonable accommodations are established through an interactive process between you, your instructor(s) and DRS. If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (this can include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), you are welcome to contact DRS at 206.543.8924 or <u>uwdrs@uw.edu</u> or <u>disability.uw.edu</u>.

Academic Integrity

Students at the University of Washington (UW) are expected to maintain the highest standards of academic conduct, professional honesty, and personal integrity. The UW School of Public Health (SPH) is committed to upholding standards of academic integrity consistent with the academic and professional communities of which it is a part. Plagiarism, cheating, and other misconduct are serious violations of the <u>UW Student Conduct Code</u> (WAC 478-120). We expect you to know and follow the university's policies on cheating and plagiarism, and the <u>SPH Academic Integrity Policy</u>. Any suspected cases of academic misconduct will be handled according to University of Washington regulations. For more information, see the <u>UW Community Standards and Student Conduct</u> web site.

Writing Skills Information

Writing is an important transferable skill and is important for all career pathways. Establishing a strong foundation in writing skills will help you be successful throughout your future course work and career. Therefore, this course includes several written assignments with the goal to help you identify areas of strength and improvement in your writing. However, if you feel you could benefit from additional opportunities to improve these skills, I have included below a list of resources at the UW and others accessible online.

UW Resources:

- Odegaard Writing and Research Center (<u>http://depts.washington.edu/owrc/</u>)
- OWRC English language support (<u>http://depts.washington.edu/owrc/english-language-support</u>)
- UW Libraries: Campus Writing Resources (<u>https://guides.lib.uw.edu/research/writing-resources</u>)
- UW Speaking Center (<u>http://www.com.washington.edu/speaking-center/</u>)
- CLUE late night writing center (<u>http://webster.uaa.washington.edu/asp/website/clue/writing-center/</u>)
- UW International and English Language Programs (<u>https://www.ielp.uw.edu/</u>)
- Foundation for International Understanding through Students (FIUTS) (<u>http://www.fiuts.washington.edu/</u>)
- Language Learning Center (<u>https://depts.washington.edu/llc/</u>
- Center for Teaching and Learning website, "Academic support for international and multilingual students" (<u>http://www.washington.edu/teaching/teaching-resources/inclusive-teaching-at-uw/teachingim-students/academic-support-for-im-students/</u>)

Course Syllabus, PHI 514, Winter 2021

Online Resources:

- Purdue Online Writing Lab (OWL) (<u>https://owl.purdue.edu/owl/purdue_owl.html</u>)
- The Purdue Online Writing Lab: "ESL Students" (<u>https://owl.purdue.edu/owl/english_as_a_second_language/esl_students/index.html</u>)
- "Advice on Academic Writing" (University of Toronto) (<u>http://advice.writing.utoronto.ca/</u>)
- "Advice on Academic Writing: Using Sources" (<u>http://advice.writing.utoronto.ca/using sources/</u>)
- "Online resources for writers" (Amherst) (<u>https://www.amherst.edu/academiclife/support/writingcenter/resourcesforwriters</u>)
- University of North Carolina Writing Center, "Tips and Tools" (<u>https://writingcenter.unc.edu/tips-and-tools/</u>); "Editing and Proofreading" (<u>https://writingcenter.unc.edu/tips-and-tools/editing-and-proofreading/</u>)

UNIVERSITY of WASHINGTON SCHOOL OF PUBLIC HEALTH

Course Syllabus PHI 515, Implementing Public Health Interventions Spring 2021, 4 credits

Instructor: TBD Phone: TBD Email: TBD Office: TBD Office Hours: TBD Time: (2x/week @ 2 hours)

Location: TBD

Canvas URL: TBD

Teaching Assistants: TBD Phone: TBD Email: TBD Office: TBD Office Hours: TBD

Course Prerequisites

- PHI 511—Foundations of Public Health (Autumn)
- PHI 512—Analytic Skills for Public Health (Autumn)
- PHI 513—Analytic Skills for Public Health II (Winter)
- PHI 514—Determinants of Health (Winter)

Course Description

In this course students will use evidence and ethics in intervention design, conduct, and evaluation. The concepts, models, and methods of implementation science in public health will be emphasized across multiple levels of the socio-ecological framework. Ethical considerations will include assessing and acting on the values and preferences of stakeholder groups and striving for equity in potential outcomes. Through lecture, small group discussion, poster presentation and an intervention project paper, students will learn how to go from evidence to action, building on the perspectives and skills taught in the previous core courses.

Course Learning Objectives

After successfully completing this course, students will be able to:

- 1. Analyze how primary, secondary, and tertiary prevention is used in the design of implementation of population health interventions
- 2. Use evidence and ethics to design, implement, and evaluate interventions to promote population health
- 3. Apply models of implementation, including the Consolidated Framework for Implementation Research, in designing strategies for building partnerships in the implementation of public health interventions
- 4. Apply understanding of cultural values and practices in designing, implementing, and evaluating public health interventions
- 5. Design a population-based policy, program, project, or intervention
- 6. Use basic principles of budgeting and resource management in designing and implementing public health programs
- 7. Design methods to evaluate public health interventions

Textbooks & Readings

The following textbook is recommended, but not required:

 Planning, Implementing, & Evaluating Health Promotion Programs: A Primer (7th Edition) 7th Edition by James F. McKenzie (Author), Brad L. Neiger, Rosemary Thackeray

Learning Assessments & Grading

Final grades will be calculated as follows:

Assessment Item	Grade Percentage
Poster	20%
Final Intervention proposal	30%
Milestone assignments toward final proposal (3 * 5% each)	15%
Intervention outline	10%
Class Participation	10%
Module Quizzes (3 * 5% each)	15%

Over the course of the quarter, mastery of competencies will be assessed in a variety of ways. All three modules will conclude with a short quiz in order to assess mastery of specific concepts. Over the course of the quarter, students will work in groups to produce a written proposal and evaluation plan for an intervention design to address a local or global public health problem. Possible public health problems will be drawn across domains representing resource rich and resource poor areas, non-communicable and infectious disease, and prevention and response strategies. Groups will present a poster at the conclusion of the quarter to share their intervention proposal with other students, and students will evaluate other posters.

Course Outline

Topic Covered Activities/Assessments/Assignments
MODULE 1: Design Interventions (1 credit)
Risk Management, Types of interventions, Conceptual Frameworks
Suggested readings
 Glasgow, R. E., T. M. Vogt, et al. (1999). "Evaluating the Public Health Impact of Health Promotion Interventions: The RE-AIM Framework." American Journal of Public Health 89(9): 1322-1327.
 Damschroder, L. J., D. C. Aron, et al. (2009). "Fostering implementation of health
services research findings into practice: a consolidated framework for advancing implementation science." Implementation Science 4: 50.
 Yokota, Fumie, and Kimberly M. Thompson. "Value of information analysis in
environmental health risk management decisions: past, present, and future." Risk analysis: an international journal 24.3 (2004): 635-650.
Ethics, evidence and theory in intervention design
Suggested readings
 CDC Guide to Community Preventive Services, Cochrane Reviews, Research tested intervention programs (web-based resources), CDC Diffusion of Effective Behavioral Interventions (DEBIs: <u>https://effectiveinterventions.cdc.gov/</u>)
 Glanz K, Bishop DB. The role of behavioral science theory in development and implementation of public health interventions. Annu Rev Public Health. 2010;31:399- 418. doi: 10.1146/annurev.publhealth.012809.103604. Review. PubMed PMID: 20070207.
Level of Implementation of Interventions and Level of Prevention of Interventions
Suggested readings
 Jardine, Cindy, et al. "Risk management frameworks for human health and
environmental risks." Journal of Toxicology and Environmental Health Part B: Critical Reviews 6.6 (2003): 569-718.
 National Ethics Advisory Committee. 2012. Ethical Guidelines for Intervention Studies.
Revised edition. Wellington: Ministry of Health.
Goal Setting and Logic Models in Intervention Design and Planning
Suggested readings
 Annie E Casey Foundation, "Theory of Change: A Practical Tool for Action, Results, and Learning" (<u>https://www.aecf.org/resources/theory-of-change/</u>)
RAND Corporation and University of South Carolina. Getting to Outcomes. Available
 at: <u>http://www.rand.org/health/projects/getting-to-outcomes.html</u> Renger R, Titcomb A. A three-step model to teaching logic model. American Journal c

Evaluation. 2002;23(4):493-503.

5 Cultural Humility and Community-based Participatory Research

Suggested reading

 Krieger J, Allen C, Cheadle A, Ciske S, Schier J, Senturia K, et al. Using communitybased participatory research to address social determinants of health: lessons learned from Seattle Partners for Healthy Communities. Health Education & Behavior. 2002;29(3):361-382.

6 Design: putting it all together

Suggested reading

 World Bank, World Development Report 2015, Chapter 11 "Adaptive Design, Adaptive Interventions" (<u>http://www.worldbank.org/en/publication/wdr2015</u>)

Assessment: End of Module 1 Quiz Assessment: Milestone assignment due on Outline of Intervention Plan

	MODULE 2: Implement Interventions (1 credit)				
7	 Contexts for Implementation 1: Inner setting (where it takes place) Hierarchy of controls workplace interventions 				
	Suggested readings				
	 Goldenhar, Linda M., et al. "The intervention research process in occupational safety and health: an overview from the National Occupational Research Agenda Intervention Effectiveness Research team." <i>Journal of occupational and environmental medicine</i> 43.7 (2001): 616-622. 				
	 Roelofs, Cora R., et al. "Prevention strategies in industrial hygiene: a critical literature review." AIHA journal 64.1 (2003): 62-67. 				
	https://www.cdc.gov/niosh/topics/hierarchy/default.html				
8	Context for Implementation: 1 Inner setting				
	 Design an implementation strategy that reflects a given organizational context and optimizes organizational readiness for effective implementation. 				
	 Suggested reading Weiner, B. J., M. A. Lewis, et al. (2008). "Using organization theory to understand the 				
	determinants of effective implementation of worksite health promotion programs." Health Education Research 24(2): 292-305.				
	 Weiner, B. J. (2009). "A theory of organizational readiness for change." Implementation Science 4(67): 1-9. 				

9

Contexts for Implementation 2: Outer setting (broader context of intervention, including socio-political; cultural; systems thinking; domestic and global infrastructure; comparative health systems)

Suggested readings

- Hawe, P., Shiell, A. & Riley, T. Am J Community Psychol (2009) 43: 267. https://doi.org/10.1007/s10464-009-9229-9
- Rutter H, Savona N, Glonti K, Bibby J, Cummins S, Finegood DT, Greaves F, Harper L, Hawe P, Moore L, Petticrew M, Rehfuess E, Shiell A, Thomas J, White M. The need for a complex systems model of evidence for public health. Lancet. 2017 Dec 9;390(10112):2602-2604. doi: 10.1016/S0140-6736(17)31267-9. Epub 2017 Jun 13. PubMed PMID: 28622953.
- **10** Models of Intervention Delivery (in healthcare, community-based organizations and public health; development and training; intervention sustainability)

Suggested readings

- Proctor, E et al. "Implementation strategies: recommendations for specifying and reporting" Implementation Science 2013, 8:139.
- McCarthy et al, "Training and HIV-Treatment Scale-Up: Establishing an Implementation Research Agenda"
- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1483909/
- International Training and Education Center for Health (I-TECH), Training Evaluation Framework and Tools: <u>https://www.go2itech.org/resources/training-evaluation-</u> <u>framework-and-tools-teft/</u>
- **11** Communication for Optimizing Implementation: Risk communication, Engagement of Stakeholders, Marketing of Interventions

Suggested reading

- Grier S, Bryant CA. Social marketing in public health. Annu Rev Public Health. 2005;26:319-39. Review. PubMed PMID: 15760292.
- 12 Implementing Interventions with Improvement and Learning in Mind

Suggested readings

- Batalden & Davidoff (2007) What is "quality improvement" and how can it transform healthcare?
- Perla (2010) The run chart: a simple analytical tool for learning from variation in healthcare processes
- TwumDanso (2012) A nationwide quality improvement project to accelerate Ghana's progress toward Millennium Development Goal Four: design and implementation progress.
- Sherr (2014) Systems analysis and improvement to optimize pMTCT (SAIA): a cluster randomized trial.

Assessment: Milestone assignment due on implementation plan

13	Monitoring	Implementation
	mornio	mpionionation

Suggested readings

- https://www.bttop.org/sites/default/files/public/W.K.%20Kellogg%20LogicModel.pdf
- https://www.samhsa.gov/capt/sites/default/files/resources/developing-logic-modelguide.pdf
- 14 Budget, Identify, Plan, Allocate, Monitor, and Report Resources

Suggested reading

 Project Management for Development Professionals Guide: <u>https://www.pm4ngos.org/pmd-pro/#pmdpro</u>

Assessment: End of Module 2 Quiz

MODULE 3: Evaluate and Disseminate Interventions (2 credits)

15 Process vs. Outcome Evaluation and Process Evaluation Methods

Suggested reading

- Saunders, R. P., Evans, M. H., & Joshi, P. (2005). Developing a Process-Evaluation Plan for Assessing Health Promotion Program Implementation: A How-To Guide. *Health Promotion Practice*, 6(2), 134–147. <u>https://doi.org/10.1177/1524839904273387</u>
- **16** Outcome Evaluation Methods

Suggested reading

- Brownson RC, Baker EA, Leet TL, et al. Evaluating the program or policy (Chapter 10). In Evidence-based Public Health. Oxford University Press, 2010.
- 17 Cost and Cost Effectiveness (the intervention works but can we afford it?)

Suggested reading

 Weatherly H, Drummond M, Claxton K, Cookson R, Ferguson B, Godfrey C, Rice N, Sculpher M, Sowden A. Methods for assessing the cost-effectiveness of public health interventions: key challenges and recommendations. Health Policy. 2009 Dec;93(2-3):85-92. doi: 10.1016/j.healthpol.2009.07.012. Epub 2009 Aug 25. Review. PubMed PMID: 19709773.

Milestone assignment due on evaluation plan

18 Evaluation, Communication, and Use of Interventions to Inform Action

Suggested reading

 Haines A, Kuruvilla S, Borchert M. Bridging the implementation gap between knowledge and action for health. Bull World Health Organ. 2004 Oct;82(10):724-31; discussion 732. Review. PubMed PMID: 15643791; PubMed Central PMCID: PMC2623035.

19 Scale-up, Dissemination, and Sustainability of interventions

Suggested reading

 Steensma JT, Kreuter MW, Casey CM, Bernhardt JM. Enhancing dissemination through marketing and distribution systems: a vision for public health. Brownson RC, Colditz GA, Proctor EK (eds). <u>Dissemination and Implementation Research in Health:</u> <u>Translating Science to Practice</u>. 2nd Edition. New York: Oxford University Press; 2018.

Assessment: End of Module 3 Quiz

20 Group Poster Session

Assessment: Poster Session Assessment: Final Proposal Due

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- UW Speaking Center (<u>http://www.com.washington.edu/speaking-center/</u>)
- CLUE late night writing center (<u>http://webster.uaa.washington.edu/asp/website/clue/writing-center/</u>)
- UW International and English Language Programs (<u>https://www.ielp.uw.edu/</u>)
- Foundation for International Understanding through Students (FIUTS) (<u>http://www.fiuts.washington.edu/</u>)

- Language Learning Center (<u>https://depts.washington.edu/IIc/</u>
- Center for Teaching and Learning website, "Academic support for international and multilingual students" (<u>http://www.washington.edu/teaching/teaching-resources/inclusive-teaching-at-uw/teaching-im-students/academic-support-for-im-students/</u>)

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- "Advice on Academic Writing" (University of Toronto) (<u>http://advice.writing.utoronto.ca/</u>)
- "Advice on Academic Writing: Using Sources" (<u>http://advice.writing.utoronto.ca/using sources/</u>)
- "Online resources for writers" (Amherst) (<u>https://www.amherst.edu/academiclife/support/writingcenter/resourcesforwriters</u>)
- University of North Carolina Writing Center, "Tips and Tools" (<u>https://writingcenter.unc.edu/tips-and-tools/);</u> "Editing and Proofreading" (<u>https://writingcenter.unc.edu/tips-and-tools/editing-and-proofreading/</u>)

UNIVERSITY of WASHINGTON SCHOOL OF PUBLIC HEALTH

Course Syllabus PHI 516, Public Health Practice Spring 2021, 3 credits

Instructor: TBD Phone: TBD Email: TBD Office: TBD Office Hours: TBD Time: (2x/week @ 1.5 hours)

Location: TBD

Canvas URL: TBD

Teaching Assistants: TBD Phone: TBD Email: TBD Office: TBD Office Hours: TBD

Course Prerequisites

- PHI 511—Foundations of Public Health (Autumn)
- PHI 512—Analytic Skills for Public Health (Autumn)
- PHI 513—Analytic Skills for Public Health II (Winter)
- PHI 514—Determinants of Health (Winter)

Course Description

PHI 516: Public Health Practice is the culminating course of the common MPH core curriculum, designed to integrate and apply knowledge of health determinants and public health systems, analytic skills and evidence-based approaches to real world public health problem solving. This course will develop system thinking skills and an understanding of the interrelationships between public health infrastructure, generation and evaluation of public health evidence, public health policy, leadership, management, communication and community engagement. Students will work in teams to apply their knowledge and skills in these areas to public health practice-based challenges using a case study framework.

Course Learning Objectives

After successfully completing this course, students will be able to:

- 1. Describe various leadership styles and explain how they influence approaches to problem solving and system functioning.
- 2. Describe public health organizational dynamics, and explain their influence on the work of public health.
- 3. Interpret surveillance data to assess community health status and develop a community health improvement plan.
- 4. Identify and apply community-engagement and advocacy strategies to public health problems and activities.
- 5. Recommend and apply prevention and control strategies in response to a public health problem.
- 6. Communicate effectively with various public health stakeholders.
- 7. Recommend public health program and/or policy evaluation strategies.

Textbooks & Readings

Example readings include:

Module 1: Leadership and Management

- Petrie, N. Future Trends in Leadership Development. Center for Creative Leadership. November 2011. http://law.scu.edu/wp-content/uploads/leadership/Future-Trends-in-Leadership-Development.pdf
- Patterson K. Crucial Conversations: Tools for Talking When Stakes are High. McGraw-Hill. 2002.
- Edmondson A. The Three Pillars of a Teaming Culture. Harvard Business Review. 2013
- Heath C. Switch: How to Change Things When Change Is Hard. Crown Business. 2010.

Module 2: Community Health Assessment

- Brownson R, Fielding J, Maylahn C. Evidence-based public health: a fundamental concept for public health practice. *Annu Rev Public Health*. 2009;30:175-201.
- Thacker SB. *Historical Development* from Principles and Practices of Public Health Surveillance. Oxford University Press. 2010.
- Community Health Assessment and Improvement Planning Toolkit. National Associate of City and County Health Officials. <u>https://www.naccho.org/programs/public-health-infrastructure/performanceimprovement/community-health-assessment</u>

Module 3: Case Studies

- Levy B, Gaufin J. Mastering Public Health: Essential Skills for Effective Practice. Oxford University Press. 2011.
- Case study-specific readings will vary by case study topic.

Learning Assessments & Grading

Students in PHI 516 will work in teams to apply knowledge gained over the course of the foundational MPH curriculum and new skills gained in PHI 516 to tackle challenges in public health practice using a case study framework. Students will be asked to present their findings and recommendations in writing and orally.

Final grades will be calculated as follows:

Assessment Item	Grade Percentage
Quizzes	20%
Class participation	10%
Written case study responses	20%
Public health program/policy development proposal	30%
Oral presentation to mock Board of Health	20%

Course Outline

Although the Modules page on the Canvas course site should be used to organize all course materials by session, week, and/or module, the syllabus should include a high-level outline of the sequencing of topics and major course milestones such as in-class activities and due dates for major assignments, quizzes and exams.

Case Studies

Students will be assigned to groups to work through real and timely challenges in public health practice. Student groups will be assigned a case study topic and will complete the following activities:

- 1. Establish team norms, processes and roles.
- 2. Gather, analyze and interpret available data and information (as needed) on the public health problem, including community demographics, policies and infrastructure, evidence-based approaches and available resources.
- 3. Propose an approach to managing the public health problem. Prepare written and oral presentations to argue the value of a proposed approach (including recommendations for additional data collection and analysis, intervention or policy development or implementation, resources needed, evaluation plan).
- 4. Present proposal to a mock board of health at the end of the quarter.

Example case study topics include:

- 1. Contaminated water crisis in a resource limited setting
- 2. Pandemic influenza preparedness and response
- 3. Managing an opioid epidemic
- 4. Investigating a cluster of rare infant birth defects
- 5. Working to improve access to traditional and healthy foods among Native American communities
- 6. Managing a measles outbreak

MODULE 1: Leadership and Management1Framing: Leading in public health; identifying challenges2Leading self: Vertical development and development strategies; Emotional intelligence3Group dynamics: Dialogue skills part 14Group dynamics: Dialogue skills part 2; creating psychological safety5Leading teams: Teaming strategies and principles; Facilitation skills6Leading change: Change management models7Creating a culture of creativity: creative confidence; mobilizing others8Summary; Group presentations9Health needs assessments10Public health surveillance11Developing and implementing public health programs/policies12Program monitoring and evaluation13Working with policy makers14Public health davocacy15Communication strategies: identifying and understanding stakeholders16Communication strategies: honing the message18Working with media (print, radio, TV, social)19Student presentations (mock Board of Health)20Student presentations (mock Board of Health)	Session	Topic Covered Activities/Assessments/Assignments
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