Course description: This course provides a focused approach to the fundamentals of public health. It is organized into two sections: Public Health Fundamentals and Public Health in Practice. The first section covers key concepts in public health: the ecological model of health, history of public health, controversial issues in public health, social determinants of health, inequities in health, epidemiology, and the interplay of research, evidence and politics in public health program and policy development and implementation. The second section of the course, Public Health in Practice, focuses on several areas of current public health practice. In each of these practice topics, the public health problem is described, stakeholders identified and suggested policy and programmatic responses are explored. One field trip is planned to expand learning in one of the practice topics.

Course objectives

1) Appreciate that health problems are located within an influential larger context of social, political and economic forces
2) Gain exposure to the achievements and failures of public health
3) Introduce public health fundamentals such as epidemiology and social determinants of health and public health in action thorough a focused examination of three public health issues
4) Apply public health principles to health problems and develop strategies to address public health problems

Instructor
Jane Schmitz, PhD
Email: schmitz@oxy.edu
Office hours Tue 12 – 1:00 pm UEP building

Class meeting and location: Tues & Thurs 10:05-11:30, WEIN 117

Required textbook: Mary Jane Schneider. Introduction to Public Health. 3rd edition.

Evaluation criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Description</th>
<th>Percent of final grade</th>
<th>Due</th>
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<tbody>
<tr>
<td>Class participation &amp; attendance</td>
<td>Debate &amp; in-class discussions</td>
<td>10</td>
<td>10/1 (debate)</td>
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<tr>
<td>Personal essay</td>
<td>In two pages, reflect on the roots of your personal interest in public health. How has public health touched your life? Via a personal or family health crisis? Via travel around the U.S. or outside the U.S.? Via your parent’s occupations?</td>
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<td>9/1</td>
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<tr>
<td>Epidemiology Problem Set</td>
<td>Observe the Occidental College campus for poor health outcomes and possible risk factors. Clearly state a scientific question (1 sentence) and a hypothesis (1 sentence) based on that scientific question. Provide one to two background paragraphs on the health problem. Propose a study design to test your hypothesis.</td>
<td>10</td>
<td>9/15</td>
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<tr>
<td>Field Trip Reflection</td>
<td>In two pages, react to the LA Port field trip. What is the real cost of buying cheap products that need to be shipped from outside of the US (in the global trade system)? Describe examples of incompatible land use that you witnessed. What is the impact of incompatible land use on community health? How are communities working to protect their</td>
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<td>Criteria</td>
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<td>health and democratize planning</td>
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<td>Midterm</td>
<td>This in-class exam will cover materials presented in the first half of the semester and it will be composed of multiple choice, short answer and an essay.</td>
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<td>10/8</td>
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<td>Final paper</td>
<td>Your paper will focus on a public health problem in the Unites States. Choose from among the following topics not covered during lecture or readings: mental illness, tobacco, injuries, infant mortality, food safety, cardiovascular disease, or cancer. Describe the biomedical and epidemiological profile of the problem, referencing tables and figures provided in an appendix. Explore the determinants of the problem in depth using the ecological model as your guide. Continuing to apply the ecological model, suggest an approach to improve your chosen public health problem. 12 pages maximum, not including references and appendix.</td>
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<td>12/7</td>
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<td>Day &amp; Date</td>
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<tr>
<td>Thu 8/27</td>
<td>What is public health? Introduction to the course</td>
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<tr>
<td>Tue 9/1</td>
<td>Public health models for understanding and action;</td>
<td>Personal essay</td>
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<td>Actors in the public health system</td>
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<td>Thu 9/3</td>
<td>1 Epidemiology: individual determinants of disease &amp; screening tests</td>
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<td>Tue 9/8</td>
<td>2 Epidemiology: risk factors &amp; study design</td>
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<td>Thu 9/10</td>
<td>3 Epidemiology: challenges in collecting evidence</td>
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<tr>
<td>Tue 9/15</td>
<td>Controversy in Public Health; role of the government; vaccines as case study</td>
<td>Epi problem set</td>
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<tr>
<td>Thu 9/17</td>
<td>Public health history</td>
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<td>Tue 9/22</td>
<td>1 Social determinants of health</td>
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<td>Thu 9/24</td>
<td>2 Social determinants of health: discussion of Unnatural Causes &amp; Freddie Gray</td>
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<td>Tue 9/29</td>
<td>Public health research: Bergen Nelson, MD*</td>
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<td>Thu 10/1</td>
<td>Debate: California SB 277</td>
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<td>Tue 10/6</td>
<td>Midterm review &amp; spillover topic</td>
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<td>Thu 10/8</td>
<td>Midterm</td>
<td>Midterm exam</td>
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<td>Tue 10/13</td>
<td>NO CLASS, Fall Break</td>
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<td>Thu 10/15</td>
<td>1 Obesity among children: evidence</td>
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<td>Tue 10/20</td>
<td>2 Obesity among children: stakeholders</td>
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<td>Thu 10/22</td>
<td>3 Obesity among children: policies and programs</td>
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<td>Tue 10/27</td>
<td>1 HIV/AIDS: evidence</td>
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<td>Thu 10/29</td>
<td>2 HIV/AIDS: stakeholders: Sonali Sulkarni, MD*</td>
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<td>Tue 11/3</td>
<td>3 HIV/AIDS: policies and programs</td>
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<td>Thu 11/5</td>
<td>1 Air pollution and child health: evidence</td>
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<td>Tue 11/10</td>
<td>2 Air pollution and child health: stakeholders</td>
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<td>Thu 11/12</td>
<td>3 Air pollution and child health: policies and programs</td>
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<tr>
<td>Tue 11/17</td>
<td>1 Global movement of goods and health impacts in Southern California: evidence</td>
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<tr>
<td>Thu 11/19</td>
<td>2 Global movement and health impacts in Southern California: stakeholders</td>
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<td>Tue 11/24</td>
<td>3 Global movement of goods field trip</td>
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<td>Thu 11/26</td>
<td>NO CLASS, Thanksgiving</td>
<td>Field trip reflection</td>
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<td>Tue 12/1</td>
<td>Last day of class</td>
<td>Final paper</td>
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<td>Mon 12/7</td>
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*Supported by the Remsen Bird Fund*
SESSION LEARNING OBJECTIVES AND READINGS

PART I: PUBLIC HEALTH FUNDAMENTALS

8/27 What is public health?

Learning objectives

1) Introduce definitions of public health, current examples of public health in action and key actors in the public health system
2) Describe our nation’s most pressing public health challenges; compare the U.S. to other nations and explore sub-national health statistics; examine trends in key health outcomes and risk factors
3) Introduce ourselves and describe the course requirements

Readings

1) Schneider: Prologue and chapter 1

9/1 Public health models for learning and action

Learning objectives

1) Become familiar with two important models for thinking and acting in public health
2) Apply these models to several public health problems

Readings


9/3 Epidemiology: individual determinants of disease & screening tests

Learning objectives

1) Introduce the definition of epidemiology and understand epidemiology more thoroughly through examples of epidemiology in practice.
2) Explore individual determinants of disease
3) Using the breast cancer BRCA gene test as an example, understand the epidemiology of diagnostic and screening tests

Readings

1) Schneider, ch 4. Epidemiology: The Basic Science of Public Health & ch 12, Genetic Diseases and Other Inborn Errors
3) [Gordis ch 15, identifying the roles of genetic and environmental factors in disease causation]

9/8 Epidemiology: Risk factors & study design

Learning objectives

1) Discuss the concepts of risk and risk factors
2) Describe the process at the core of epidemiological investigation: forming a scientific question, generating a hypothesis and designing a study.
Readings

1) Schneider, ch 5, Epidemiologic Principles and Methods
2) Gordis, ch 12 A Pause for Review: Comparing Cohort and Case-Control Studies.

9/10 Epidemiology: challenges in collecting evidence

Learning objectives

1) Become aware of the major sources of data in public health
2) Discern the difference between an association and a causal relationship
3) Gain an understanding of the challenges of bias and confounding

Readings

1) Schneider, ch 6, Problems and Limits of Epidemiology & ch 8 The Role of Data in Public Health
2) Gordis ch 13, From Association to Causation: Deriving Inferences from Epidemiologic Studies

9/15 Controversies in public health; the role of government

Learning objectives

1) Explore the broad powers of public health and the tension between individual liberties and public health
2) Introduce how and why vaccination programs are controversial

Readings

2) Bayer R. The continuing tensions between individual rights and public health. EBRO. 8;12. 2007.

9/17 Public health history

Learning objectives

1) Appreciate the major achievements and failures of public health in the recent era
2) Consider the main attributes of key eras in the public health history and acknowledge how public health mirrors its societal context over time

Readings

1) Centers for Disease Control. Ten Great Public Health Achievements in the 20th Century
   http://www.cdc.gov/about/history/tengpha.htm

9/22 Social determinants of health

Learning objectives

1) With a special focus on the life and work of Virchow, become familiar with the historical roots of ‘social determinants of health’.
2) Detail the social and social environmental factors that are key determinants of health

Readings

9/24 Social determinants of health; Discussion of Unnatural Causes & Freddie Gray

Learning objectives

1) Discuss how the topics, people and places presented in Unnatural Causes relate to the social determinants of health
2) Explore the biological pathway between stress and poor health
3) Examine the life and death of Freddie Gray as a case study in social determinants of health—and the role of lead poisoning in hindering child development.

Readings

1) Schneider ch 14, Psychosocial Factors Affect Health Behavior

10/1 Debate on California SB 277

Learning objectives

1) Thoroughly consider both sides of a volatile public health issue
2) Gather and package facts on vaccines as strategy to prevent infectious disease
3) Work in teams in a fast-paced situation

Readings

1) Californians for Vaccine Choice https://www.facebook.com/CaliforniansAgainstSB277
2) Paul A. Offit, MD. Reliable information about vaccines http://paul-offit.com/resources/

PART II: PUBLIC HEALTH IN ACTION

Learning objectives for ‘Evidence’ sessions

1) Thoroughly explore the evidence relating to each issue: the determinants, prevalence and incidence, trends, and variation by location, age, sex and other key factors.
2) Explore the strengths and limitations of the available evidence
3) Understand the basic biomedical processes operating underlying each issue

Learning objectives for “Stakeholders’ sessions

1) Detail the key stakeholders in each issue area
2) Explore what power and tactics and motivations those key players display
3) Role play stakeholders in order to gain a deeper understanding

Learning objectives for ‘policies and programs’

1) Gain exposure to a range of policy and program responses to the issues.
2) Appreciate the complex policymaking process in public health

10/15 Obesity: evidence

Readings
1) Schneider ch 16, Public Health Enemy Number Two and Growing: Poor Diet and Physical Inactivity
2) More to be added

10/27 HIV/AIDS: evidence

Readings
1) Schneider chapter 9, The Conquest of Infectious Diseases & chapter 10, The Resurgence of Infectious Disease
2) More to be added

10/29 HIV/AIDS: stakeholders

Readings
1) More to be added

11/3 HIV/AIDS: policies and programs

Readings
1) Strathdee & Beyrer. Threading the Needle—How to Stop the HIV Outbreak in Rural Indiana. N Engl J Med 373;5. 397-399
2) More to be added

11/5 Air pollution: evidence

Readings
1) Schneider ch 21, Is it Safe to Breathe?

11/10 Air pollution: stakeholders

Readings
1) More to be added

11/12 Air pollution: policies and programs

Readings
1) More to be added

11/17 Global movement of goods: evidence

Readings

11/19 Global movements of goods: stakeholders
Readings/Video

1) *Dear Mr. Buffett Video* is part of the efforts against having the SCIG Railyard built right next to a community that includes schools, a child care center, a part and a community garden in West Long Beach. This area is already overburdened by Goods Movement. [https://www.youtube.com/watch?v=nG8TtFoNhJU](https://www.youtube.com/watch?v=nG8TtFoNhJU)