

## Introduction to Public Health



Industry Sector: [Health Science and Medical Technology](#)

Pathways: Patient Care, Mental & Behavioral Health

The Introduction to Public Health course provides students with a foundational knowledge of public health's historical contributions, the ethical bases, key terms and concepts, system organizations, and the social, behavioral, environmental, and biological factors that contribute to specific individual and community health outcomes through interactive learning strategies and the application and integration of concepts to understand and prevent current public health problems and those facing public health in the 21st century. These include epidemiology of infectious and chronic disease, environmental health, health promotion, global health (including health disparities and cultural competence) and health policy and management (including disaster preparedness).

**Last Revised:** August 14, 2017

Program Information	CTE Certification Elements
<p><b>Industries / Pathways:</b> Health Science and Medical Technology Industry: Patient Care and Mental and Behavioral Health Pathways</p> <p><b>Grade Levels:</b> 9, 10, 11, 12</p> <p><b>CSU/UC Approval:</b> No</p> <p><b>Community College Course:</b> Yes</p> <p><b>Pathway Sequence(s) That Include This Course:</b></p> <p><b>1. Patient Care Pathway Course Sequence:</b></p>	<p><b>Course Level:</b> Introductory,</p> <p><b>CALPADS Pathway:</b> HLT - 198, HLT - 195</p> <p><b>CALPADS Course Title:</b> Introduction to Public Health</p> <p><b>State Course ID:</b> 7921, 7960</p> <p><b>Total Hours:</b> 45</p> <p><b>Course Length:</b> 1 Semester</p> <p><b>Local Course Number:</b> HED201:PC, HED201:MH</p> <p><b>Board Approval:</b> Pending Board Action on 12/7/17</p>

Introduction to Health and Human Service Careers or Health Professions and Organizations  
First Aid, Emergency Response and CPR  
Career Explorations  
Anatomy and Physiology  
*Introduction to Public Health* or Health and Social Justice or Medical Terminology  
Hospital/Clinical Internship (10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup>)  
Realities of Nutrition or Substance Abuse and Public Health  
CPR Recertification  
Advanced Pre-nursing Seminar or Advanced Internship

**2. Mental & Behavioral Health Pathway Course Sequence:**

Introduction to Health and Human Service Careers or Health Professions and Organizations  
First Aid, Emergency Response and CPR  
Career Explorations  
Anatomy and Physiology  
Foundations of Mental & Behavioral Health Careers I or Health and Social Justice or *Introduction to Public Health*  
Mental Health Internship (10<sup>th</sup>, 11<sup>th</sup>, 12<sup>th</sup>)  
Foundations of Mental & Behavioral Health Careers II or Substance Abuse and Public Health or  
Introduction to Social Work  
CPR Recertification  
Specialized Mental Health Seminar Project and Exhibition and/or Advanced Mental/Behavioral Health Internship

**Labor Market Demand:** High

**Course Type:** Career-Technical Preparation

## Competencies / Outcomes

Students will be able to:

1. Identify different public health disciplines, professions and organizations, and explain how each contributes to the field of public health.
2. Describe the most important historical milestones/achievements of public health.
3. Describe the appropriate use of basic epidemiological methods.
4. Outline strategies for prevention, detection and control of infectious and chronic disease.

5. Describe the organization, financing and delivery of various medical and population-based services in the United States healthcare system.
6. Explain the role of Public Health in addressing the following issues: disparities among different populations, aging, injuries, obesity, control of emerging diseases and epidemics, and emergency preparedness.

## Standards

### Common Core Standards for Literacy in History/Social Studies, Science and Technical Subjects Reading

1. RST.9-10.3 (9th and 10th) [Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks, attending to special cases or exceptions defined in the text.](#)
2. RST.11-12.3 (11th and 12th) [Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.](#)
3. RST.9-10.9 (9th-10th) [Compare and contrast findings presented in a text to those from other sources \(including their own experiments\), noting when the findings support or contradict previous explanations or accounts.](#)
4. RST.11-12.9 (11th and 12th) [Synthesize information from a range of sources \(e.g., texts, experiments, simulations\) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.](#)

### Writing

1. WHST.9-10.4, WHST.11-12.4 (9-10 & 11-12) [Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.](#)

### California's 2013 CTE Standards

1. CTE.HSMT.E.1.1 [Understand written text about the history, philosophy, services, and careers in public health.](#)
2. CTE.HSMT.E.1.2 [Describe the environmental, behavioral, biological, and socio-economic factors as well as access, quality, intervention and cost of medical care that are central to communities and the population.](#)
3. CTE.HSMT.E.1.3 [Identify the roles and responsibilities of public health in addressing populations, health disparity, and disaster prevention and management.](#)
4. CTE.HSMT.E.2.4 [Understand the many health disparities barriers to access among underserved communities.](#)
5. CTE.HSMT.E.2.5 [Develop specific competencies for work in underserved and/or linguistically isolated communities.](#)
6. CTE.HSMT.E.2.12 [Research the social, cultural, and behavioral factors influencing health outcomes.](#)
7. CTE.HSMT.E.3.2 [Recognize the contributions that aging persons make to their communities.](#)
8. CTE.HSMT.E.3.1 [Understand how the demographics of the older population affect various aspects of our society.](#)
9. CTE.HSMT.E.3.11 [Analyze the impact of an aging society on the nation's health care system.](#)
10. CTE.HSMT.E.5.1 [Describe the historical roots of epidemiological thinking and its contribution to the evolution of the scientific method.](#)

11. CTE.HSMT.E.5.2 [Describe the basic epidemiological concepts of rates, causation, and public health surveillance.](#)
12. CTE.HSMT.E.5.5 [Explore the effects of disease, injury, and violence on longevity and quality of life.](#)
13. CTE.HSMT.E.5.6 [Evaluate methods to prevent, detect, cure, and minimize disease, injury, and violence in the population.](#)
14. CTE.HSMT.E.5.4 [Research data regarding disease or injuries, including rates, risk factors, disease determinants, and causation of morbidity and mortality.](#)

## Units

### Unit 1: What is Public Health?

#### Description

In unit 1, students will address the question, “What is public health?” through the study of the science, politics, and prevention. Students will also analyze social justice vs. market justice and identify different sources of controversy including economic impact, individual liberty, moral and religious concerns, and politics vs. science. Students will discuss the powers and responsibilities of the government in regards to public health and how is it organized in the United States. They will identify and research local public health agencies, state health departments, federal agencies, centers for disease control and prevention, national institutes of health, nongovernmental public health organizations, and philanthropic foundations.

Finally, the students will define epidemiology, the basic science of public health. Through the analysis of case studies, they will discuss principles and methods to include defining the disease, determining how to measure disease frequency, and identify the distribution and determinants of disease. Students will explore different kinds of epidemiologic studies, identify the problems and limits of epidemiology, and discuss the importance of ethics and changing laws.

#### Key Topics/Activities

- Public Health: Science, Politics, and Prevention
- Why is Public Health Controversial?
- Powers and Responsibilities of Government
- Epidemiology: The Basic Science of Public Health
- Epidemiologic Principles and Methods
- Problems and Limits of Epidemiology

Key concepts and skills will be assessed through written examination, including multiple choice, short answer, and short constructed response.

## Unit 2: Analytical Methods and Biomedical Basis of Public Health

### Description

In unit 2, students will learn to make sense of the uncertainty in statistics and explore the role that data plays in public health. Through learning about infectious diseases and major killers of the past such as smallpox and yellow fever, they will discover how these diseases were “conquered” by the invention of immunizations and antibiotics. They will dissect diseases by identifying their correlating infectious agents including bacteria, viruses, and parasites. By understanding the chain of infection and different means of transmission, students will learn how to interrupt the chain of infection and prevent transmission in a way applicable to their everyday lives. In addition to learning about infectious diseases of the past, students will also learn about infectious diseases that are present today. They will dive deeper into understanding what HIV/AIDS is, how it is transmitted, along with other threatening and emerging viruses.

Chronic diseases are now the leading causes of death and disability. In this unit, students will learn about the biomedical basis of different chronic diseases including cardiovascular disease, hypertension, cancer, diabetes, Alzheimer's disease and arthritis.

In the final component of this unit, students will learn about genetic diseases and other inborn errors, in addition to the influence of environmental factors. Students will learn how genetic diseases are caused and how newborns are screened for these genetic diseases. They will learn about the guidelines for screening process in adolescents and adults for recessive genes in high-risk populations.

### Key Topics/Activities

- Statistics: Making Sense of Uncertainty
- The Role of Data in Public Health
- The “Conquest” of Infectious Diseases
- The Resurgence of Infectious Diseases
- The Biomedical Basis of Chronic Diseases
- Genetic Diseases and Other Inborn Errors

Key concepts and skills will be assessed through written examination, including multiple choice, short answer, and short constructed response.

## Unit 3: Social and Behavioral Factors in Public Health

### Description

In unit 3, students will learn about the leading causes of actual death and dive deeply into the topics of tobacco use, poor diet and exercise, and motor vehicle injuries. Students will also explore the public health interventions for prevention, those of which include education and regulation. Students will research public health interventions and different ways of prevention and share their newly gained knowledge with their peers. They will have discussions about the extent to which people choose their own health and draw evidence from texts and other resources to defend their claims.

Students will learn that the most important predictor of health is socioeconomic status and research the effects. Specifically, they will define socioeconomic status and its impact on a person's health and access to health care. Finally, students will discover the impact that social and behavioral factors have on maternal and child health. Through group work and collaborative conversations, they will discuss ways of preventing infant mortality and abnormalities.

### Key Topics/Activities:

- Do People Choose Their Own Health?
- How Psychosocial Factors Affect Health and Health Behavior
- Tobacco - Public Health Enemy Number One
- Public Health Threat Number Two and Growing: Poor Diet and Physical Inactivity
- Injuries Are Not Accidents

Key concepts and skills will be assessed through written examination, including multiple choice, short answer, and short constructed response.

## Unit 4: Environmental Issues

### Description

In unit 4, students will learn about the effect of accidents, mental health, maternal and child health. Through collaborative conversations, students will discuss and share categories of injury death such as unintentional and intentional (i.e., homicide, suicide) types. Epidemiology of injuries will address issues among gender and ethnicity, as well as leading causes of injuries and the injury pyramid. The analysis of injuries (i.e., primary, secondary, & tertiary prevention) will also address the “Three E’s” of injury prevention (i.e., Education, Enforcement, Engineering).

Content addressing maternal and child health as a social problem analyzes the history of child health programs beginning in the late 1800s, the importance of infant and child health care, social factors in infant mortality, prenatal care, causes of infant mortality in the U.S., prevention of birth defects, low birth weight, and SIDS. Family planning and adolescent pregnancy will be explored with a focus on risks for mother and child, comprehensive sex education, and types of effective contraceptives. Students will learn about government nutrition programs (i.e., WIC). Children’s health and safety will focus on immunizations, oral health, regulation of day care centers, child safety seats, helmets, and governmental supports for children with special needs.

The third component of this unit is focused on mental health and correlations with chronic disease, injuries, and substance abuse. Epidemiology of mental illness will address most common types, gender, age, and region, as well as causes and prevention. Particular study will center on children’s biological and psychosocial experiences as well as common disorders (i.e., autism, mood disorders, ADHD), accurate diagnosis, and prevention strategies. Content focused on adult mental illness will emphasize the types, coping strategies, and treatment options.

### Key Topics/Activities

- Mental Health: Public Health Includes Healthy Minds
- A Clean Environment: The Basis of Public Health
- Maternal and Child Health As A Social Problem
- Clean Air: Is It Safe To Breathe?
- Clean Water: A Limited Resource
- Solid and Hazardous Wastes: What To Do With The Garbage?
- Safe Food and Drugs: An Ongoing Regulatory Battle

Key concepts and skills will be assessed through written examination, including multiple choice, short answer, and short constructed response.

## Unit 5: Medical Care at the Population Level and the Future of Public Health

### Description

Unit 5, addresses environmental hazards such as infectious pathogens that use humans as hosts in order to cause harm. Five environmental agents that can cause disease in humans are analyzed, as well as the routes by which people might be exposed. Students will explore the idea that workers often serve as guinea pigs for environmental exposures. PCBs will be defined and examples will be analyzed in order to explain and describe how these affect the environment. Governmental standards and their implementation for the protection of human health and the environment will be researched. Students will study several examples and explain the benefits of specific implemented governmental standards.

Students will focus on the historical research findings of indoor air quality in the 1980s, as well as the global effects of air pollution. Examples of how these affect the environment and human health will be explained. Specific ineffective state and local laws concerning air and water pollution will address the need for the federal government to have passed legislation in the 1970s. Specifically, students will analyze the 1978 CDC surveillance for waterborne disease outbreaks. Students will investigate the CDC's findings, as well as identify how this affected human health and the environment in 2016. Ultimately, students will be able to explain and describe the necessary steps to filter water and make it safe to drink.

The effects of landfills on our environment and the effects of products that are causing harm will be explored. Students will learn about alternatives to landfills in order to reduce waste. The Love Canal will be defined and its impact on hazardous wastes will be described. Students will specifically analyze how the canal became hazardous and how the government intervened.

In this unit, students will also identify various types of food contaminants and how the government regulated the reduction of hazards for these contaminants. Specific measures of how consumers can reduce the risk from each contaminant will be explored. The Dietary Supplement Health and Education Act will be analyzed so that students may identify the pros and cons. Students will also be able to explain the FDA's responsibilities, specifically the measures the FDA takes to assure product safety and suitability for consumers.

### Key Topics/Activities

- Population: The Ultimate Environmental Health Issue
- Is The Medical Care System A Public Health Issue?
- Why the U.S. Medical System Needs Reform
- Health Services Research: Finding What Works

Key concepts and skills will be assessed through written examination, including multiple choice, short answer, and short constructed response.

## Unit 6: Emergency Preparedness

### Description

In unit 6, students will research the cause of the public health issues described in assigned chapters. Students will be able to describe the measures taken to promote health awareness. In collaborative groups, students will research, discuss and create an infographic presentation.

In a group presentation, students will address a specific health issue pertaining to one of the following topics: population, the medical care system, the U.S. Medical System, health services research: finding what works, the aging population, emergency preparedness, post 9/11, and the twenty first century: achievements and challenges.

Content addressing population and environmental health issues will focus on population growth, the global impact of population growth such as the depletion of resources and climate change. Students will explore whether the medical care system is a public health issue by identifying when medical care is a public health responsibility, the conflict between public health and the medical profession, licensing and regulation, ethical and legal issues in medical care, and ethical issues in medical resource allocation.

Investigating why the U.S. Medical System needs reform will require students to identify problems with access, reasons why costs keep rising, approaches to controlling medical costs, managed care and beyond, the patient protection, and affordable care act, as well as issues with rationing.

Of equal importance are the students' ability to analyze health services research in order to find what works. Such research involves reasons for practice variations, the Field of Dreams Effect, outcomes research, quality, medical care report cards, inequities in medical care, and the relative importance of medical care for public health.

In this unit, content on public health and the aging population involves the trends, health status of the older population, general approaches to maximizing health in old age, preventing diseases and disability in old age, medical costs of the elderly, and proposals for rationing.

Emergency preparedness, post- 9/11 content details the types of disasters and public health responses that took place in New York's response to the World Trade Center attacks, responses to Hurricane Katrina, principles of Emergency Planning and Preparedness, bioterrorism preparedness, and the pandemic flu.

### Key Topics/Activities

- Public Health And The Aging Population
- Emergency Preparedness, Post 9/11
- Public Health In The Twenty-First Century: Achievements and Challenges

Key concepts and skills will be assessed through written examination, including multiple choice, short answer, and short constructed response.

