

University of California, Berkeley

Summer 2017 Global Public Health Minor

Introduction: Public health seeks to improve human health through the development and application of knowledge that prevents disease, protects the public from harm, and promotes health throughout the state, the nation, and the world. Under the global public health summer minor or certificate, students will develop and apply knowledge from multiple disciplines for the promotion and protection of the health of the human population, giving due consideration to principles of human rights and many cultural perspectives in our multicultural country and world. The minor or certificate can serve as a precursor to further study in public health, other health professions, or any fields in which the health of persons and populations is a relevant concern. The summer minor can augment and enhance many different undergraduate bachelor degree programs and prepare students for professional and academic careers. In addition, public health is of interest for its own sake, as a component of a rigorous liberal arts education.

Overview: The minor or certificate in Global Public Health explores health-related issues affecting populations in the United States and worldwide. Students complete courses covering a range of disciplines and methods relevant to promotion and protection of human health, emerging health issues, healthcare systems, and approaches to address and intervene. It will expand knowledge and comprehension of domestic and international challenges for human health. Valuable internship experience, completed locally, nationally, or abroad, and the development of both technical and public health practice skills is part of the available curriculum. The certificate can be pursued by non-UC Berkeley students in or outside of California, including international students.

The two options available are described below:

1. **Global Public Health Minor - for UC Berkeley students.** The Minor in Global Public Health consists of **three core** and **two elective courses** taught in two consecutive, six-week summer sessions. Completion of core courses and any two electives listed below will satisfy the minor. A local or global public health **8-week internship** with required seminar can also serve as one of the elective courses. Students declaring a minor must do so in writing to the Director of Undergraduate Program at the School of Public Health. *The minor can be completed in one or two summers. Students pursuing the 8-week internship as one elective will need two summers to complete the minor.*

2. **Global Public Health Certificate - for non-UC Berkeley students.** The Certificate in Global Public Health consists of **three core** and **two elective courses** taught in two consecutive, six-week summer sessions. Once the required core courses are completed, any two electives listed below will satisfy the requirements of the certificate. A local or global public health 8-week internship with required seminar can serve as one elective course for interested students. Some restrictions may apply for international students. The certificate can be completed in one or two

summers. *Students pursuing the the 8-week internship as one elective will need two summers to complete the minor.*

UC Berkeley and Visiting students who do not want to declare the minor or receive a certificate, but are interested in these classes may enroll in as many courses as they wish.

Core Courses for Global Public Health Minor or Global Public Health Certificate:

The three courses below: *Global Health: A Multidisciplinary Approach*, *Epidemiologic Methods* and *Introduction to Biostatistics* are required to complete the **minor** or **certificate**.

PB HLTH 112: Global Health: A Multidisciplinary Approach (Session A, p.m.)

Good health at the individual and community level is central to human happiness, economic development, and societal progress. Good health, which is not simply the absence of illness and injury, is the result of the complex interplay of many factors, including the legal, social, political, and physical environments, economic forces, food availability and nutrition, access to safe water and sanitation, cultural beliefs and human behaviors, religion, and the availability of affordable preventive measures such as vaccines and of curative services, among others. By definition, global health transcends geopolitical borders and standard academic disciplines, so a broad multidisciplinary approach to its study and understanding is required. Students will be expected to read, understand, and use sometimes advanced materials from diverse disciplines. Case-based discussions will be included in the course. This is a three-unit course.

PB HLTH 250A: Epidemiologic Methods (Session D, p.m.)

This three-unit introductory course presents the principles and methods of epidemiology, including descriptive and analytic approaches to assessing the distributions of health, disease, and injury in populations and factors that influence those distributions. The emphasis is on developing an understanding of concepts, rather than quantitative methods, although calculations are involved. Through the combination of lectures, readings, critical review of papers, and problem sets, students without prior coursework in epidemiology will acquire the core competencies in epidemiology expected of all public health professionals. Examples are drawn from national and international public health issues.

PB HLTH 141: Introduction to Biostatistics (Session D, a.m.)

An intensive five-unit introductory course in statistical methods used in applied research with an emphasis on principles of statistical reasoning, underlying assumptions, and careful interpretation of results. Topics covered include: descriptive statistics, graphical displays of data, introduction to probability, expectations and variance of random variables, confidence intervals and tests for means, differences of means, proportions, differences of proportions, chi-square tests for categorical variables, regression and multiple regression, an introduction to analysis of variance. Statistical software (STATA) will be used to supplement hand calculations.

Elective Courses for Global Public Health Minor or Global Public Health Certificate:

Select two of the following courses:

PB HLTH 150B: Introduction to Environmental Health Sciences (Session A, p.m.)

This three-unit course presents the relationship between chemical, physical, and biological hazards in the environment and their impact on human health. The course focuses on the core areas of environmental health sciences: toxicology, microbial ecology, exposure assessment, risk assessment, environmental epidemiology, regulations/policies, and GIS/spatial analysis. It examines the science, health considerations and regulations of contaminants in air, water and food in the context of both developed and developing countries. Other key topics such as ethics, environmental justice, and occupational health and safety are also discussed. Local, national and international case studies are used to provide real-world examples of important environmental health concepts.

PB HLTH 150D: Introduction to Healthy Policy and Management (Session A, a.m.)

This three-unit course in health policy and management course will introduce students to health policy making and the organization of the United States healthcare system. Health policy and management applies concepts from economics, organizational behavior, and political science to the structure, financing, and regulation of the public health and health care delivery systems. Students will also learn about current issues in U.S. health policy and contemporary organizational challenges experienced by the U.S. healthcare system.

PB HLTH 162A: Public Health Microbiology (Session D, a.m.)

This three-unit course presents the fundamentals of microbiology as it relates to the causes of disease and the promotion of health. The primary emphasis will be on infectious agents and the diseases that they produce in humans. To fully comprehend how these agents produce disease, we will learn their properties, how they are transmitted, and what their effects are on humans. The course covers the host immune response to microbial infections as well as the prevention and treatment of infections. In addition, students will be introduced to microorganisms that usually do not cause disease but play indispensable and beneficial roles. Students will learn about the threat of infectious diseases nationally and globally.

PB HLTH 118: Nutrition in Developing Countries (Session A, a.m.)

This three-unit course focuses on low- and middle-income countries will cover: the effects of nutrition throughout the lifecycle in pregnancy, infancy, childhood, and adulthood; nutrition broadly in terms of issues of undernutrition, micronutrient deficiencies, and obesity; and how to analyze and evaluate actions taken to ameliorate the major nutritional problems facing vulnerable populations. Student will learn about ways in which organizations and governments design and implement policies and programs that affect food production and access to safe, affordable, and nutritionally adequate diets. The course will address how stakeholders in the food system—consumer, health, industry, government, and other groups—interact with each other to affect policy design and implementation; the historical, social, economic, environmental, and political factors that determine stakeholder positions on policy issues; and the ways in which these factors promote or act as barriers to achieving a functional and sustainable food system that promotes optimal food, nutrition, and health.

PB HLTH 197: Global Public Health Internship and Seminar (Session A, p.m.)

This three-unit course is designed to help students get the most from their internship experience and strengthen their potential leadership and career development. Students will also be able to reflect on professional and leadership style and development. Students will assess their strengths, styles, and preferences, as well as areas they need to strengthen. They will be challenged to use and reflect on the internship experience as an opportunity to develop key competencies and to critically explore organizational cultural dynamics, modes of conduct, and values. Moreover, this course will provide students with the opportunity to integrate classroom learning and practice in a public health work environment. Students will make important contributions to the host organization, the community he/she serves, and to the solution of global public health problems while developing personal confidence and leadership skills as an emerging public health professional.