

# Public Health (CPH)

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## **CPH 1301. Introduction to Public Health. 3 Semester Hours.**

This course focuses on health problems and issues of public health from the social sciences perspective. The course will enable students to describe one or two core theoretical perspectives from social science disciplines and cover the major social and behavioral science models used in health promotion and disease prevention. The course will also cover existing social inequalities in health status related to race, social class, and gender, and the critical intersection between social risk factors, behavioral risk factors, and the development and implementation of public health interventions.

## **CPH 2301. Environmental Health. 3 Semester Hours.**

This course develops a general awareness of how the human-made environment and natural ecosystem interact to affect health and the quality of life. A review of relevant principles from the natural sciences, and discussions of issues influencing the solutions to environmental health problems included.

## **CPH 3301. Fundamentals of Epidemiology. 3 Semester Hours.**

This course introduces students to principles and concepts in epidemiology, methods of epidemiologic investigation, and the design, interpretation, and evaluation of epidemiologic research. Students are introduced to the strategies adopted by public health professionals to study distribution and identification of important biological, social, and environmental determinants of diseases and health-related states in specific populations. Prerequisites: CPH 1301; and CPH 2301; and 1 course with statistics emphasis (CJ 3332, CR 3332, MT 2303, PO 2311, PS 3381, or SC 3381).

## **CPH 3357. Intro to Health Informatics. 3 Semester Hours.**

This course is designed to provide a discussion of the various facets of health informatics of interest to emerging healthcare, public health, and population health professionals. It is designed for current and future professionals who wish to develop health informatics expertise or specialization in a field dedicated to the optimal use of data, information, and knowledge to advance individual health, health care, public health, and health-related research. This course will define health informatics and public health informatics and tackle obstacles in this emerging field by: presenting the knowledge, infrastructure, functions, and tools of health informatics; exploring technology, planning and management, and applications in public health and healthcare; and contrasting differences in roles, needs, and solutions among major players in the national and commercial health informatics communities. The course will apply available sources of data, information, and knowledge to address healthcare and public health problems. Students will learn the application of informatics skills and knowledge to health-related problems. Application activities will include simple data analysis and visualization of clinical data and answering clinical questions using information retrieval methods. Prerequisites: CPH 3301, CPH 4301, and approved research methods course.).

## **CPH 3367. Consumer Health Informatics. 3 Semester Hours.**

Consumer health informatics (CHI) is a rapidly expanding area of informatics practice, with career opportunities emerging in the public, non-profit, and private sectors. Broadly, the field aims to give individual health care consumers, as well as their families and communities, the information and tools that they need to help them become more involved in their health and health care. In this course, students will become familiar with a range of CHI applications, including the needs/problems that the applications address, their theoretical bases and designs, and relevant evaluation results. The course will cover an overview of health behavior theories that are relevant to health behavior change and health information behavior and explore how they might be applied to promote changes in health behavior and/or explain health consumers' behaviors. The course will also introduce key issues such as health literacy, patient-centered communication, patient empowerment, patient-generated data, participation, and privacy with a special focus on the application of CHI in areas of public health, including surveillance, prevention, preparedness, and health promotion. At the end of the course, students will have an ability to evaluate existing applications, and to generate theory-informed design and implementation strategies for CHI applications for potential users with a particular focus on groups that experience health care and information access disparities. Prerequisites: CPH 3301, CPH 4301, and approved research methods course.

## **CPH 3372. Health Promotion in Public Health. 3 Semester Hours.**

Health Promotion in Public Health is ideal for students interested in managing public health programs that address health behavior, disease prevention, and health equity. Students will learn about commonly used theories and models, community engagement, health equity, needs assessment, and program design, implementation, and evaluation. Throughout the semester, students will improve communication skills while applying newly acquired knowledge related to public health problems. (3 credits). Prerequisite: CPH1301 Introduction to Public Health.

## **CPH 3377. Electronic Health Records. 3 Semester Hours.**

The course is aimed at exposing students to Electronic Health Record (EHR) systems and coding, with a strong emphasis on the role of EHR systems in health care operations and patient care as called for in recent US government regulation. The course includes: common coding systems or language and functions and an overview of EHR software programs, legal and regulatory issues, the role of EHR in quality of care and evidence-based practice, and applications of EHR systems and healthcare data in patient care. Students will gain hands-on experience with a virtual EHR and examine the impact of EHRs on healthcare particularly in terms of ensuring quality of patient care and evidence-based practice, adhering to standards set by accreditation bodies and government organizations, and promoting ongoing public health surveillance and for assessing outbreaks of community-wide diseases and other threats to public health. Prerequisites: CPH 3301, CPH 4301, and approved research methods course; CS1300 or CS3300.

**CPH 3387. Healthcare Project Management. 3 Semester Hours.**

Much of the work in healthcare and public health is project based, whether it is training healthcare workers implementing an intervention, adopting a health information system, or evaluating a practice for quality improvement. Good project management is crucial for the success of these endeavors. Students will be introduced to the theory and concepts of project management and the tools to manage projects with a specific focus on healthcare and public health. At the end of this course, students should be able to develop, execute, and control a basic project plan that is capable of supporting organizational objectives linked to measures of success for a single project as it applies to healthcare and/or public health. Prerequisites: CPH 3301, CPH 4301, and approved research methods course.

**CPH 3392. Public Health Ecology and the Human Environment. 3 Semester Hours.**

This course provides an overview of the basic principles underpinning public health ecology and environmental health. Students are provided with foundational knowledge in public health ecology, principles of environmental health, and an introduction to environmental policies & controls including the forces that influence the development of environmental health policy. Applications of this knowledge will be applied to an environmental case study, wherein students will use a systems thinking approach to identify the key elements of the problem, develop solutions, and articulate a dissemination plan. In addition, inter-professional engagement simulations will be used to provide students with skills for engaging stakeholders, including community members, policymakers/enforcers, and other healthcare professionals. (3 credits). Prerequisite: CPH 1301 Introduction to Public Health and CPH 2301 Environmental Health.

**CPH 3397. Data Visualization. 3 Semester Hours.**

In our increasingly data-reliant world, data to generate insights have the power to change the world. Data visualization and storytelling is a crucial skill for today's workplace across several diverse fields including public health and health related fields. The ability to depict surveillance and other complex health-related data in a visual manner promotes sound public health practice by supporting the three core functions of public health: assessment, policy development, and assurance. With the advent of visualization tools that do not require coding, data storytelling is an attainable skillset for people with varying levels of technical ability. This hands-on introductory course will teach students how to develop meaningful data stories that reveal visual insights accessible for relevant audiences. Students will learn how to use Tableau, the industry standard in data visualization tools, to make sense of and visualize publicly available data. Students will leave the course with a portfolio of data visualization projects that demonstrate the application of data storytelling for healthcare and public health. Prerequisites: CPH1301 and SC3306, SC4383, 3381 or equivalents for research methods and statistics courses.

**CPH 4301. US Healthcare System. 3 Semester Hours.**

The course is designed to assist the student in understanding and preparing for the unique challenges presented to managers in a health services administration career. History and current environment of U.S. health care are considered, as well as the ever-changing infrastructure of the health-services industry including the organization, structure, and operation of the nation's health care system.

**CPH 4302. Advanced Epidemiology. 3 Semester Hours.**

This course provides a strong foundation in concepts, principles, and methods specific to advanced epidemiology. By the end of this course, students should be able to apply these skills to (a) assess the health of a population; (b) describe the natural history, distribution, and determinants of health-related states and events; and (c) evaluate programs designed to improve public health. To accomplish this, the course considers epidemiology in the context of core public health functions and services. Pre-Requisite: CPH 3301. Introduction to the Fundamentals of Epidemiology.

**CPH 4304. Management and Policy Concepts in Public Health. 3 Semester Hours.**

This course provides an overview of theory and practice in the management and policy sciences applied to the field of public health. Topics include public health in the U.S. health system/legal bases of public health, public policy institutions, planning and management to promote health, emergency preparedness, public sector institutions, management, and decision-making. Students will gain skills in oral and written communication with individual and group projects. This course will introduce students to the public health system, public health policy development, and fundamental management concepts for managing public health organizations. Topics covered include organization, financing, and history of public health, public health policy-making, advocacy, and basic principles of finance and human resource management in public health organizations. (3 credits). Prerequisites: CPH 1301 Introduction to Public Health and CPH 4301 US Healthcare Systems.

**CPH 4390. ProSem and Internship. 3 Semester Hours.**

This is a three-credit high impact learning experience course. This course is designed to provide resources and experiential learning for the college-to-career pipeline for Public Health majors. It is an introduction to the professional field of public health and the related employment industries and will serve as a guide to skills required to succeed in graduate school and professional careers. Topics and activities will include, for example: professional development, assessment of cultural humility skills, and refining professional portfolio materials and experiences. At the completion of the course, students will have professional college-to-career pipeline resources and an applied intern experience that should increase confidence about multiple public health career options in their postbaccalaureate lives. All students will complete 20 hours per week at an approved healthcare and/or public health site. Program director approval required. Prerequisites: Junior standing and (12) of the Public Health Core credits (CPH1301, CPH2301, CPH3301, CPH4301).

**CPH 4482. Introduction to Biostatistics in Public Health. 4 Semester Hours.**

This course is designed as the first biostatistics course for students who have not previously taken a course in biostatistics; it is a designated core course for MPH students. Students will learn how to analyze quantitative data using appropriate biostatistical methods and software and interpret analysis results for a given public health context. (4 credits). Prerequisite: any approved statistics courses and CPH1301 Introduction to Public Health.