

# PUBLIC HEALTH (PUBH)

---

## **PUBH 101S - Introduction to Public Health. 3 Credits.**

This course will serve as an overview of the discipline and practice of public health. This will include the history of public health, tools and techniques used in the field, a population perspective, and an emphasis on prevention. General principles of public health are illustrated through textbook readings, contemporary articles, videos, case studies as well as field trips to local organizations.

Gen Ed Attributes: Social Sciences

## **PUBH 155 - Reimagining Global Health: Biosocial Perspectives. 3 Credits.**

Examination of global health problems in the context of rapidly changing social structures, cultural beliefs and practices, and environmental and biological realities that transcend geopolitical boundaries. Students will explore case studies and a multidisciplinary research literature centering on how biosocial perspectives might provide a foundation to improve health and well-being on a global level.

## **PUBH 191 - Special Topics. 1-6 Credits.**

(R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Previous topics have included Global Health and Epidemiology of Infectious Disease. Level: Undergraduate

## **PUBH 225 - Public Health Policy. 3 Credits.**

This course introduces concepts of health policy at the global, national, state and local level, and reviews current and emerging issues in health policy. Special emphasis will be on international health. The international emphasis will be on the public health problems facing low- and middle-income countries today, especially those problems relating to reproductive health, infectious diseases, nutrition, and literacy. We will also examine the interaction of health policy and law, and issues of international cooperation and global governance.

## **PUBH 230 - Public Health Biology. 3 Credits.**

This course provides a foundation of biology concepts necessary for the practice of public health including an evaluation of the natural history and mechanisms underlying infectious and chronic human diseases.

## **PUBH 325 - Environmental and Occupational Health. 3 Credits.**

Prereq., PUBH 101S. This course presents information related to the recognition, evaluation and control of the chemical, physical and environmental factors that can impact human health in the workplace and the community.

## **PUBH 330 - Public Health Informatics and Data Systems. 3 Credits.**

Prereq., PUBH 101S. The purpose of this course is to provide the student an overview of the subject of Public Health Informatics. The historical development of public health information management to current developments and issues in public health informatics will be addressed. Current technical concerns, strategies and needs will be studied. Current and historical case studies will be reviewed and analyzed to give the student a deeper appreciation for the field.

## **PUBH 345 - Healthcare Systems and Organizations. 3 Credits.**

Prereq., PUBH 101S. This course provides an overview of how healthcare and public health are organized and how their services are delivered in the United States. Topics to be covered include public policy (including U.S. health reform initiatives); organization of healthcare systems; components and operation of healthcare organizations, including e-health delivery; professional roles and accreditation; and legal and regulatory issues, including licensure requirements. The course will also introduce healthcare systems in other countries to serve as a comparison for the U.S. healthcare system.

## **PUBH 365 - Population Health Evidence Based Practices. 3 Credits.**

Prereq., PUBH 101S. This course provides an orientation to the U.S. public health system and major contemporary public health problems using evidence-based approaches. Students will apply the principles of evidence-based approaches in critical assessment of public health issues from program design and implementation to evaluation and assessment. This course will emphasize the principles of scientific reasoning and how they inform evidence-based public health interventions. Students will be able to examine public health issues from multiple analytic perspectives and recognize how these perspectives may suggest different solutions to a given public health problem.

## **PUBH 380 - Public Health Nutrition. 3 Credits.**

Restricted to students with junior standing. Student strongly encouraged to have completed NUTR 221N or comparable course before enrolling. This course will examine the role of nutrition in promoting, maintaining and improving health in the community. The course will investigate traditional aspects of the emerging health delivery system, as the financial, legislative, political sociological and scientific aspects of public and community health. Students will identify nutrition programs and policies for various stages of the life cycle and develop skills needed to solve nutrition and health problems in community settings.

## **PUBH 391 - Special Topics. 1-6 Credits.**

(R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics.

## **PUBH 410 - Population Health Planning and Management. 3 Credits.**

Prereq., PUBH 101S. The course is designed to provide students an overview to develop culturally competent public health programs to address the most important health issues affecting our communities at local, national, and international levels. Students will learn the process of public health programming including assessment, design, planning, and implementations and evaluation. The course will also include an overview of effective public health interventions using the socio-ecologic framework (individual/behavioral, environmental/social/community and policy) as a foundation to explore various levels of interventions. Level: Undergraduate

## **PUBH 415 - Role of Lifestyle in Chronic Disease Prevention. 3 Credits.**

Restricted to students pursuing the Health Behavior Coaching Certificate. As a Health Behavior Coach knowledge of chronic disease prevention is of utmost importance. In this course coaches will be learn about the art and science of health promotion and disease prevention; including an understanding of risk factors for chronic disease, basic biometric measures, and current lifestyle recommendations for optimizing health. Level: Undergraduate-Graduate

**PUBH 420 - Health Coach Training. 3 Credits.**

Restricted to students pursuing the Health Behavior Coaching Certificate. The purpose of this course is to introduce students enrolled in the Health Behavior Coach Certificate program to the core competencies set out by the National Consortium for Credentialing of Health & Wellness Coaches (NCCWC). Instruction includes an overview of behavior change science and research in the area of effective lifestyle change, as well as practice in the application of the NCCWC competencies. Level: Undergraduate-Graduate

**PUBH 475E - Public Health Ethics. 3 Credits.**

This course is will explore a variety of theories, concepts, issues, cases, and arguments in both medical and public health ethics, including the overlap and distinctions between these two related areas. Level: Undergraduate-Graduate

Gen Ed Attributes: Ethical & Human Values, Writing in the Disciplines

**PUBH 491 - Special Topics. 1-6 Credits.**

(R-6) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Previous topics have included Global Health and Epidemiology of Infectious Disease. Level: Undergraduate-Graduate

**PUBH 492 - Independent Study. 1-6 Credits.**

(R-6) Registration requires consent of instructor. Supervised readings, research, or public health practice. Level: Undergraduate/Graduate

**PUBH 494 - Seminar. 1-6 Credits.**

(R-6) A review and discussion of current research. Topics vary. Level: Undergraduate-Graduate

**PUBH 495 - Practicum. 1-6 Credits.**

(R-6) Level: Undergraduate-Graduate

**PUBH 498 - Internship. 1-6 Credits.**

Offered intermittently. Prereq., consent of department. Extended classroom experience that provides practical application of classroom learning during placements off campus. Prior approval must be obtained from the faculty supervisor and the Internship Services office. A maximum of 6 credits of Internship (198, 298, 398, 498) may count toward graduation. Level: Undergraduate-Graduate

**PUBH 499 - Capstone. 1-3 Credits.**

(R-6) Registration requires consent of instructor. Level: Undergraduate

**PUBH 510 - Intro to Epidemiology. 3 Credits.**

Restricted to graduate students in Public Health. Principles and methods of epidemiologic investigation, descriptive and analytic epidemiology techniques, disease frequency, risk determination, study designs, causality, and validity. Level: Graduate

**PUBH 520 - Fundamentals of Biostatistics. 3 Credits.**

Restricted to graduate students in Public Health. This course is designed for graduate students and practitioners in public health, biomedical sciences, and related fields. The course introduces basic vocabulary, concepts, and methods of biostatistics. The goal is to provide an introduction to how biostatistics works. Topics will include descriptive statistics, probability, random variables, probability distributions, statistical inference, and chi-square analysis. Level: Graduate

**PUBH 525 - Multicultural/Native American Public Health. 3 Credits.**

Restricted to graduate students in Public Health. This course is designed to provide general overview of multicultural issues within the United States and specifically within Montana. The course will provide overview information about health disparities within the nation and how these disparities disproportionately impact ethnic minority populations. Montana's largest minority population is native American tribal communities. As a result, much of the course will incorporate advanced knowledge and topics relating to regional health disparities facing Native American communities. Level: Graduate

**PUBH 530 - Public Health Administration and Management. 3 Credits.**

Restricted to graduate students in Public Health. Overview of public health and health care systems; organizational structures, functions, authorities, policies and procedures; programmatic budgeting, operations, and prioritizations; program performance reporting and improvement; grants and contracts; informatics; human relations and negotiation; management and leadership; and business planning. Level: Graduate

**PUBH 535 - Health Policy. 3 Credits.**

Restricted to graduate students in Public Health. The evolution and intersection of international, federal, state, and local public health policy. Level: Graduate

**PUBH 540 - Social & Behavioral Science in Public Health. 3 Credits.**

Restricted to graduate students in Public Health. Behavioral and social factors relevant to the identification and solution of public health problems, principles of health behavior change, applications, and assessment of interventions. Level: Graduate

**PUBH 542 - Applied Theoretical Foundations of Community Health. 3 Credits.**

Exploration of theoretical foundations of community health and the role of public and community health professionals in the development and implementation of educational, organizational, economic, and/or environmental strategies that promote community health. Level: Graduate

**PUBH 544 - CBPR Methods for Health. 3 Credits.**

Instruction will present the principles and practice of community-based participatory research methods (CBPR) and mixed-methods approaches that offers strategies for studying and addressing health and social problems. Level: Graduate

**PUBH 545 - Issues in Maternal and Child Health. 3 Credits.**

This course provides an overview of maternal and child health problems, programs, and policies. The course examines the social determinants of health and development of women, infants, children and adolescents using the life-course perspective. Students will become familiar with the epidemiology of maternal and childhood diseases and assess the resources and interventions used to combat them. 16 maximum enrollment. Offered online only. Level: Graduate

**PUBH 550 - Program Evaluation & Research Methods. 3 Credits.**

Restricted to graduate students in Public Health. Covers purpose statements, standards, study designs, sampling, measurement, methods for data collection and analysis, interpretation, and report preparation. Models of evaluation described, and similarities and differences between research and evaluation methods explored. Level: Graduate

**PUBH 560 - Environmental & Rural Health. 3 Credits.**

Restricted to graduate students in Public Health. Relationship of people to their physical environment, how this relationship impacts health, and efforts to minimize negative health effects. Level: Graduate

**PUBH 570 - Ethical Issues in Public Health. 3 Credits.**

Restricted to graduate students in Public Health. Focus on the values and moral issues that underlie U.S. public health policies. Course examines ethical decision making in areas such as policy development, research, environmental health, occupational health, resource allocation, and genetics. Level: Graduate

**PUBH 580 - Rural Health Issues Global Context. 3 Credits.**

Restricted to graduate students in Public Health. Focus on rural concerns and global influences on public health. Covers trends in global health, global health policies, players, priorities, human rights, health equity, and mobile and vulnerable populations. Students will be introduced to health research methods and design, which will be used to analyze rural and global health issues. Emphasize the science and art of epidemiological strategies to answer specific health questions. Level: Graduate

**PUBH 590 - Research. 3 Credits.**

(R-6) Restricted to graduate students in Public Health. With the guidance of their faculty advisor, students will develop a written proposal specific to the goals of their research project, and carry out the project. Level: Graduate

**PUBH 591 - Special Topics/Experimental. 1-6 Credits.**

(R-12) Offered intermittently. Experimental offerings of visiting professors, experimental offerings of new courses, or one-time offerings of current topics. Previous topics have included Global Health and Epidemiology of Infectious Disease. Level: Graduate

**PUBH 592 - Independent Study. 1-6 Credits.**

(R-6) Restricted to graduate students in Public Health. Supervised readings, research, or public health practice. Level: Graduate

**PUBH 595 - Practicum. 3 Credits.**

Restricted to graduate students in Public Health. Students will demonstrate attainment of public health competencies through a practice-based experience. The final product of the APE is a portfolio that includes at least two distinct products (such as videos, multimedia presentations, journal entries, spreadsheets, websites, posters, photos or other digital artifacts of learning) as well as an oral presentation. Students must have completed 12 credits of core courses prior to enrolling for the APE. Offered credit/no credit only. Level: Graduate

**PUBH 599 - Professional Paper/ILE. 3 Credits.**

Restricted to graduate students in the Public Health program. Requires consent of instructor. Students will demonstrate synthesis and integration of public health knowledge in the foundational and concentration-specific public health competencies through the development of a high-quality written product that is appropriate for the student's educational and professional objectives. The ILE should be completed after the student has at least 12 credits in the degree program. Offered credit/no credit only. Level: Graduate

**PUBH 600 - Research Rotations in Public Health. 3 Credits.**

Restricted to graduate students in Public Health. This course will provide students with experience related to different types of public health research projects being conducted not only within the School of Public and Community Health Sciences, but throughout the University of Montana. Level: Graduate

**PUBH 610 - Data Science and Research Methods Using R. 3 Credits.**

This course is designed for graduate students in public health and other disciplines to learn data science and management techniques using the R programming language. Specific topics covered in the course include exploring, cleaning, and manipulating data, data visualization, summarizing and analyzing data using basic applied statistical methods, reproducible workflows in research, and ethical research practices for working with data. The course is designed to guide students with little to no coding experience through beginner and intermediate level data management techniques in R. However, students with previous coding and/or R experience will also find the course helpful in refining their R skills and learning new and more advanced techniques. The course will prepare students for more advanced courses in statistics and epidemiology as well as for research-based projects, thesis projects, dissertations, and jobs/careers that require knowledge of data management and analytical techniques.

**PUBH 612 - Neuroepidemiology. 3 Credits.**

Prereq., PUBH 510. Students will learn about special considerations researchers incorporate into studying neurological diseases. Course materials will include a presentation of the pathophysiology, clinical aspects and descriptive epidemiology of a variety of neurologic diseases. Particular emphasis will be placed on the methodologic challenges and strategies associated with the study of these diseases. Level: Graduate

**PUBH 613 - Spatial Epidemiology in Geographic Information Systems (GIS). 3 Credits.**

Prereq., PUBH 510. Spatial epidemiology is the study of the spatial distribution of disease that encompasses both the description and analysis of geographic variations in disease with respect to any number of risk factors. Spatial Epidemiology in Geographic Information Systems (GIS) is a unique course designed for teaching GIS techniques to students interested in public health, epidemiology, and infectious disease. It imbeds learning GIS software in the context of human health scenarios including wildlife (zoonotic) hosts and arthropod vectors. Students will gain basic skills in analyzing datasets and performing spatial and neighborhood analyses on data. Level: Graduate

**PUBH 614 - Environmental and Occupational Epidemiology. 3 Credits.**

Prereq., PUBH 510. Through readings, case studies, and class discussions, students will gain the ability to critically evaluate published research in environmental and occupational epidemiology that will provide the background for students to design and conduct their own research. A particular emphasis will be on published research relevant to rural communities to illustrate concepts; however, we also will draw from examples from around the world relating to a wide variety of exposures. Level: Graduate

**PUBH 615 - Infectious Disease Epidemiology and Control. 3 Credits.**

This graduate level course will review infectious disease concepts, examine principles of epidemiology used to characterize infectious diseases, and explore how these concepts and principles are applied to infectious disease prevention and control. Special topics including COVID-19, disease transmission modeling and geospatial epidemiology will be explored. Vaccines as a means to prevent infectious diseases will be covered in detail, including vaccine safety monitoring and vaccine hesitancy in the U.S.

**PUBH 620 - Advanced Quantitative Methods in Public Health I. 3 Credits.**

Prereq., PUBH 510 and PUBH 520. Through lectures and collaborative problem sets, students will gain the expertise to design and conduct their own research. The emphasis will be on concepts related to basic and advanced epidemiologic methods and on how these concepts influence study design choices. We will utilize R and STATA statistical software throughout the course to illustrate concepts using simple datasets. Level: Graduate

**PUBH 621 - Advanced Quantitative Methods in Public Health II. 3 Credits.**

Prereq., PUBH 620. This is the second in the Advanced Quantitative Methods series in public health. This semester will focus on practical data analysis and the presentation and translation of findings in both manuscript and oral form. We will analyze a complex, longitudinal dataset to illustrate the concepts learned in the first semester. The course will culminate in the analysis of a new longitudinal dataset and the presentation of your results. Level: Graduate

**PUBH 640 - Qualitative Research Methods in Public Health. 3 Credits.**

Prereq., PUBH 540. This course provides an overview of qualitative research methods commonly used in public health research. Students will develop expertise in designing and conducting a range of data collection techniques (e.g., focus groups, semi-structured interviews, observations) and performing a variety of analyses (e.g., coding, narrative and thematic analysis, memoing). Students will also gain expertise in qualitative data management and computer assisted qualitative data analysis. The major deliverables in this class include developing a presentation on a qualitative research approach, designing a qualitative research project, and writing a proposal that describes a qualitative research project. Level: Graduate

**PUBH 690 - Research. 1-9 Credits.**

(R-27) With the guidance of their faculty advisor, students will develop a written proposal specific to the goals of their research project, and carry out the project.

**PUBH 691 - Special Topics. 1-6 Credits.**

Students will learn about special considerations researchers incorporate into studying neurological diseases. Course materials will include a presentation of the pathophysiology, clinical aspects and descriptive epidemiology of a variety of neurologic diseases. Particular emphasis will be placed on the methodologic challenges and strategies associated with the study of these diseases.

**PUBH 692 - Independent Study. 1-6 Credits.**

Supervised readings, research, or public health practice.

**PUBH 694 - Seminar. 1-3 Credits.**

(R-9) Students discuss experiences with goal of integrating theory and practice.

**PUBH 699 - Dissertation. 1-9 Credits.**

R-50. The dissertation is an original contribution to knowledge of such substance and literary quality as to warrant publication. A dissertation research proposal that is approved by the student's Ph.D. Advisory Committee must be completed before registering for dissertation research credit. Level: Graduate