

# Public Health

Master of Public Health (<https://catalog.und.edu/graduateacademicinformation/departmentalcoursesprograms/publichealth/ph-mp/h/>)

Ph.D. in Indigenous Health (<https://catalog.und.edu/graduateacademicinformation/departmentalcoursesprograms/publichealth/ph-ih/>)

Certificate in Public Health (<https://catalog.und.edu/graduateacademicinformation/departmentalcoursesprograms/publichealth/ph-grad-cert/>)

## PH 504. Planning & Management to Promote Health. 3 Credits.

This course introduces students to the field of public health and develops their appreciation of the unique and important role of public health in promoting health and preventing disease and disability in communities and populations; their understanding of the principles of population health; and their knowledge of how public health functions today, including its organization, financing, policy priorities, and core functions in the United States and other countries. Prerequisite: Enrollment in MPH degree program or certificate or consent from instructor. F.

## PH 505. Public Health Data Management in SAS. 1 Credit.

This course introduces students to the basics of data management using the statistical software SAS. The course emphasizes management and manipulation of large data sets using the active learning approach. Students need to bring their laptop computers to class, as well as a flash drive on which to store SAS programs and data sets. Data for exemplification will be chosen from the large array of online and publicly available health-related data sets. Prerequisite: Enrollment in MPH degree program or certificate or consent from instructor. S.

## PH 510. Public Health & Health Care Systems. 2 Credits.

This course provides an overview of the U.S. public health and health care systems as well as current health policy issues. Topics are addressed from a comparative effectiveness perspective and evaluate how U.S. health systems perform relative to other countries and systems. Prerequisite: Enrollment in MPH degree program or certificate or consent from instructor. F.

## PH 515. International Health Systems. 3 Credits.

This course introduces students to International health care delivery systems, global health policy, administration, and health practice as countries throughout the world seek to balance economic and health goals through health system reform, improvement, and modification. This course addresses emerging events, advances, reforms, and challenges in the delivery of health care around the world through the introduction of foundational concepts of health care delivery systems including health and disease; and policy and economics. The health systems of 22 unique countries will be examined including: United States, Canada, Mexico, Peru, Brazil, United Kingdom, France, Germany, Ireland, Russia, Turkey, Jordan, Israel, Ghana, Nigeria, Botswana, Bangladesh, India, China, Japan, Korea, and Australia. Each country's geography and culture, as well as the history of its health system, will be explored followed by a detailed evaluation of cost, quality, access and innovation of health care. Prerequisite: Admission to MPH degree program, 4+1 Program, PHE junior or senior status or consent from instructor. S.

## PH 520. Environmental Health. 2 Credits.

This course explores historic global environmental disasters, and policy while examining exposure assessment and epidemiologic study designs commonly used in environmental health in order to characterize the impact of environmental exposures on population health and our environment. It provides an overview of the major pollutants including their detection, impact on health, and principles of remediation. Ethical issues related to environmental health are discussed. Prerequisite: Enrollment in MPH degree program or certificate or consent from instructor. S.

## PH 531. Biostatistics 1. 3 Credits.

This course introduces the selection, use, and interpretation of basic statistical tests and concepts that may be used in addressing, analyzing, and solving problems in public health and health care research. Prerequisite: Enrollment in MPH degree program or certificate or consent from instructor. F,S.

## PH 532. Biostatistics 2. 3 Credits.

This course continues the introduction to biostatistics begun in PH 531 on the selection, use, and interpretation of basic statistical tests and concepts that may be used in addressing, analyzing, and solving problems in public health and health care research. Topics include nonparametric analysis, multiple linear regression, analysis of variance as a special case of multiple linear regression, and an introduction to logistic regression. Prerequisite: Successful completion of PH 505 and PH 531. F.

## PH 533. Advanced Biostatistics. 3 Credits.

This course develops advanced skills in biostatistics, with an emphasis on applied research in public health and medicine. Students learn how to derive quantitative answers to an applied research question by using multivariable statistical modeling. The course covers advanced topics in analysis of variance, linear and logistic regression, Poisson and Negative Binomial regression, survival analysis, and generalized linear models. Prerequisite: Successful completion of PH 532 and PH 550. S.

## PH 534. Introduction to Health Informatics. 3 Credits.

This course will introduce students in the health professions to the field of health informatics by providing the foundational competencies needed to understand and apply informatics concepts and methods to the practice of healthcare. Students will be given opportunities to develop informatics knowledge and skills using real-world examples of health IT applications from their current or future scope of practice. Prerequisite: Completion of a biostatistics course or consent from instructor. F.

## PH 541. Public Health Communication. 2 Credits.

This course introduces communication theories and concepts applied to public health problems. Students will develop the skills necessary to use media strategically to advance public health policies and health. The course covers the planning and development, design and testing of concepts, implementation, and evaluation of media campaigns to promote public health goals. Prerequisite: Enrollment in MPH degree program or certificate or consent from instructor. F.

## PH 545. Public Health Leadership & Interprofessional Practice. 3 Credits.

This course is designed to introduce students to major theories and concepts of leadership, ways of applying these to public health issues requiring leadership, and provides an opportunity for students to develop skills and resources for further developing leadership skills. The course focuses on preparing healthcare professionals with the foundational skills needed to work in teams to effectively collaborate and coordinate services in population health management. Key themes focused on interprofessional communication, collaboration, leadership, and professionalism will be ingrained throughout content. Prerequisite: Enrollment in MPH degree program or consent from instructor. S,SS.

## PH 550. Population Health Research Methods. 3 Credits.

This course provides an overview of the research process including conducting a literature review, formulation and motivation of a research question, selection of a sample, various types of data, use of statistical software, commonly used measures in public health research, measurement and management of variables, description and graphing of variables, analysis and interpretation of data, inferential statistics, writing a research report, and an introduction to qualitative research. Prerequisite: Successful completion of PH 531 and PH 551. F.

## PH 551. Epidemiology 1. 3 Credits.

This course introduces the basic epidemiologic concepts used to study health and disease in populations including measurement, study design, and related statistical tests. Observational and experimental epidemiologic studies are described and their advantages and disadvantages compared. The course provides an overview of the major causes of morbidity and mortality in populations. Ethical issues related to epidemiology are discussed. Prerequisite: Enrollment in MPH degree program or certificate or consent from instructor. S.

## PH 552. Epidemiology 2. 3 Credits.

This course is designed to provide students with a critical understanding of intermediate epidemiological principles. This second course of epidemiology is a continuation of PH 551, which introduced basic epidemiology concepts. PH 552 covers methods and techniques for designing, implementing, analyzing and interpreting observational studies, including cross-sectional, case-control and cohort studies. Students will also be introduced to special topics in epidemiology, such as reproductive epidemiology, social epidemiology, and environmental epidemiology, among other topics. Prerequisite: Successful completion of PH 531 and PH 551, or consent from instructor. S.

### PH 555. Health Law & Policy Analysis. 3 Credits.

The U.S. health system is undergoing significant transformation, and public health has a critical role at the federal, regional, state, and local levels. Students will learn advanced skills in applied health policy including: researching health legislation (e.g., Public Health Service Act, Social Security Act, Affordable Care Act); understanding the interdependent role of laws, administrative rules, executive orders, and judicial decisions in policy making and implementation; analyzing the evidence base for public health policy interventions; writing brief summaries of proposed legislation; preparing legislative testimony to inform health policy decisions; evaluating and comparing potential health policy interventions; and identifying opponents, proponents, advocates, and other stakeholders related to specific health law policy issues and interventions. Prerequisite: POLS 552. F.

### PH 556. System Dynamics 1. 3 Credits.

This course provides an introduction to System Dynamics modeling, which ranges from conceptual modeling of complex systems, to computer-aided simulation modeling, for the purpose of improving system performance through policy analysis and design. The knowledge and critical thinking skills gained from this course will enable students to work either independently or on interdisciplinary teams to effectively deal with problems arising from complex systems with feedback loops and delays. Topics include: policy resistance, causal loop diagrams, stock-and-flow diagrams, positive and negative feedback loops, fundamental types of behavior modes; delays; oscillations; modeling human behavior; and model testing. On demand.

### PH 570. Special Topics in Population Health. 1-3 Credits.

This course explores special topics in the field of population health. Topics vary with faculty expertise and issues current in the field. The course may be repeated for credit if the topics are different. Prerequisite: Approval of Faculty Advisor. Repeatable to 6.00 credits. On demand.

### PH 572. Health Care Budgeting & Finance. 3 Credits.

Components of this course include the evolution of healthcare finance and management including: reimbursement, revenue and expense classifications, financial reporting, budgeting, financial analysis, financing of public health agencies, and the current and anticipated financial impact of healthcare reform on the healthcare industry and health services organizations. This course focuses on learning and applying financial and managerial accounting principles and techniques to health services organizations. The subject matter is designed to provide a working knowledge of accounting, finance, and budget terminology. Components of the class include the evolution of healthcare finance and reimbursement, revenue and expense classifications, financial reporting, budgeting, financial analysis, financing of public health agencies, and the current and anticipated financial impact of healthcare reform on the healthcare industry and health services organizations. Prerequisite: Enrollment in MPH degree program or consent from instructor. S.

### PH 573. Grant Writing & Management. 3 Credits.

This is a project-based course that covers the complete process of grant writing and management including: identification of an achievable and fundable project, research and assessment of viable funding sources, funder relations, proposal writing, budget development, and final preparation of a full grant proposal package for submission. Students will gain an understanding of the nonprofit funding environments and become familiar with tools and resources available to assist them as they seek funds for their projects. The course seeks to improve writing and research skills within the context of grant seeking. On a practical level, it emphasizes reader-based prose, revising skills, and the "Five C's" of effective writing, and reinforces these qualities through "in-class" peer review. On a more theoretical level, the class discusses several case studies in order to create strategic questions involved in developing projects and writing grant proposals. The course focuses not only on the practical structure of proposals, but also on peer-review, building relationships and issues such as project sustainability and evaluation. Prerequisite: Enrollment in MPH degree program or consent from instructor. F.

### PH 574. Foundations of Health Economics. 3 Credits.

This course serves as an introduction to the role of economics in health care and health policy. The microeconomic principles of supply and demand are introduced, and topics such as the demand for health, the derived demand for medical care, and the demand for health insurance are covered. On the supply side, the course examines the supply of medical care by physicians and hospitals, medical technology, and the role of managed care organizations. Implications of adverse selection, moral hazard, externalities, and asymmetric information are addressed. Cost benefit and cost effectiveness analyses are also introduced. The course examines the role of government in health care and health care reform including the implications of expanding insurance coverage under the Affordable Care Act. The effectiveness and efficiency of various health policies are also addressed, including government forms of insurance coverage such as Medicare, Medicaid, and the Department of Veterans' Affairs, price regulation of hospitals, provider payment reform, medical malpractice, uncompensated care, and health care workforce issues. Prerequisite: College Algebra and one of the following: Basic Statistics or Biostatistics, Introductory Micro- or Macro- Economics; or Consent of Instructor. On demand.

### PH 581. Principles of Indigenous Health. 3 Credits.

This course is designed to provide students with a critical understanding of Indigenous health with local and global perspectives provided. The course will specifically explore both traditional perspectives and cutting edge fields of Indigenous health including traditional healing systems, cultural safety, Indigenous food systems, Indigenous data, Indigenous research methodologies and evaluation processes, plus decolonizing narratives while defining the impact of colonization and health disparities in communities. We will utilize a strengths-based approach in our understandings of Indigenous concepts of health and healing, and ways of moving forward towards greater health equity. Prerequisite: Enrollment in MPH degree program or certificate or consent from instructor. F.

### PH 582. Social & Ecological Determinants of Indigenous Health. 3 Credits.

This course is designed to provide students with the skillsets to apply social determinant models to relevant Indigenous Health topics. Key concepts and determinants of health will include: Social determinants of Indigenous Health, Indigenous environmental health and environmental justice, land healing determinants of health, while utilizing social and ecological case studies. Prerequisite: Successful completion of PH 581 or consent from instructor. S.

### PH 583. American Indian Health Policy. 3 Credits.

The course will provide a detailed overview of the unique policy issues that form the legal basis for provision of public health and healthcare services to American Indians and Alaska Natives. The American Indian (AI) population is unique in the United States in that AIs are born with a legal right to health services. This is based on treaties and numerous other laws, executive orders, court decisions and other legal bases in which the tribes exchanged land and other natural resources for various social services, including housing, education, and healthcare. The Indian Health Service is the federal agency responsible for carrying out the federal government's trust responsibility to provide public health and healthcare services to AIs. Prerequisite: Enrollment in MPH degree program or certificate or consent from instructor. F.

### PH 584. Public Health Programming in Indigenous Populations. 3 Credits.

This course is designed to provide students with the knowledge and strategies needed to develop and implement effective public health programs in Indigenous populations to address significant public health disparities. Key areas of focus include: Applying the Ten Essential Public Health Services in Indigenous Populations, Indigenous Research Program Evaluation Frameworks, Grant writing and management, Funding sources for Indigenous Public Health programming, Case Studies/Best and Promising Practices in Indigenous Public Health, and networking with Indigenous Health professionals. Prerequisite: Enrollment in MPH degree program or certificate or consent from instructor. S.

### PH 590. Seminar in Leadership & Advocacy. 1 Credit.

The MPH Seminar in Leadership and Advocacy is one component of the MPH Culminating Experience. The course is intended to build skills that will help students effectively put their public health knowledge into practice in organizations and communities. Through development of leadership and advocacy skills, students also synthesize and apply knowledge acquired through previous coursework and other public health learning experiences. Prerequisite: Complete all MPH core courses. S.

**PH 594. Applied Practice Experience. 1-3 Credits.**

The Applied Practice Experience is a planned, supervised, and evaluated practice experience. It provides an opportunity to apply basic public health competencies acquired through coursework. Prerequisite: Enrollment in MPH degree program, completion of core courses and consent from instructor. Repeatable to 3.00 credits. On demand.

**PH 995. Integrative Learning Experience. 2 Credits.**

The Integrative Learning Experience is one component of the MPH Culminating Experience. Students complete a project that demonstrates synthesis and application of knowledge acquired through coursework and other public health learning experiences. Prerequisite: Complete all MPH core courses or consent from instructor. F,S,SS.

**PH 996. Continuing Enrollment. 1-12 Credits.**

Continuing enrollment credit. Repeatable. S/U grading. F,S,SS.