The Program in Public Health (https://www.feinberg.northwestern.edu/sites/cehs/our-programs/program-in-public-health/index.html) prepares students for public health practice, teaching, and research endeavors. The program provides students with:

1. a broad perspective on the definition of health highlighting the concepts of prevention, health promotion, health care organization and delivery, and population-based research and intervention and
2. an interdisciplinary public health knowledge base derived from biomedical and social scientific theories and empiric evidence.

Coursework and faculty are drawn from many departments in the Feinberg School of Medicine, including the Institute for Public Health and Medicine, and Global Health Studies in the Weinberg College of Arts & Sciences. The program also includes applied practical experience in a governmental or non-governmental public health setting.

Degrees Offered

- Public Health MPH (https://catalogs.northwestern.edu/tgs/public-health/public-health-mph)

Public Health Courses

PUB_HLTH 301-0 Behavior, Society & Health (1 Unit)
The course analyzes the interplay of social structure, technology, culture and demography on patterns of health, illness and health behavior. The course focuses on the application of theories of behavioral change for solving health and public health problems, including stages of change, relapse prevention, social advertising and social marketing methods for use in primary care and community settings.

PUB_HLTH 302-0 Introduction to Biostatistics (1 Unit)
The course focuses on descriptive statistics, principles of exploratory data analysis, basic probability, hypothesis testing, correlation, simple linear regression, and the basics of the analysis of variance. All examples are directed towards application of these methods in the medical and health fields.

PUB_HLTH 303-0 Environmental Health Sciences (1 Unit)
The course offers a broad background introduction to the analysis of the health consequences of exposure to air, weather, food, the workplace and other special environments potentially contaminated by biologic, chemical and physical agents.

PUB_HLTH 304-0 Introduction to Epidemiology (1 Unit)
This course introduces the science of epidemiology and its uses, including measures of disease occurrence, common sources and types of data, important study designs and sources of error in epidemiologic studies.

PUB_HLTH 305-0 Programming for Statistical Analysis (1 Unit)
This an introductory course to programming for statistical analysis using SAS. Topics include data management, descriptive statistics, tests of association and reports.

PUB_HLTH 310-0 Foundations of Public Health (0 Unit)
This three-quarter sequence is required for all MPH students during the first year of enrollment. Students earn one unit of credit, awarded in the spring quarter. The "Foundations" course focuses on knowledge acquisition and skill development essential for public health practice. Foundations uses the case-based teaching method, and covers the Council on Education for Public Health (CEPH)'s 12 required knowledge objectives for MPH education.

PUB_HLTH 311-0 Foundations of Public Health (0 Unit)
This three-quarter sequence is required for all MPH students during the first year of enrollment. Students earn one unit of credit, awarded in the spring quarter. The "Foundations" course focuses on knowledge acquisition and skill development essential for public health practice. Foundations uses the case-based teaching method, and covers the Council on Education for Public Health (CEPH)'s 12 required knowledge objectives for MPH education.

PUB_HLTH 312-0 Foundations of Public Health (1 Unit)
This three-quarter sequence is required for all MPH students during the first year of enrollment. Students earn one unit of credit, awarded in the spring quarter. The "Foundations" course focuses on knowledge acquisition and skill development essential for public health practice. Foundations uses the case-based teaching method, and covers the Council on Education for Public Health (CEPH)'s 12 required knowledge objectives for MPH education.

PUB_HLTH 313-0 Topics in Public Health (0.5 Unit)
This variable topics course addresses important current issues in public health.

PUB_HLTH 314-0 Topics in Public Health (0.5 Unit)
This variable topics course addresses important current issues in public health.

PUB_HLTH 315-0 Topics in Public Health (1 Unit)
This variable topics course addresses important current issues in public health.

PUB_HLTH 316-0 Topics in Public Health (1 Unit)
This variable topics course addresses important current issues in public health.

PUB_HLTH 317-0 Seminar in Community Health Research (0 Unit)
The Seminar in Community Health Research is a weekly one-hour seminar that is required for all MPH students in the Community Health Research concentration. The student will earn one unit of credit for each year, awarded in the fall quarter. The seminar will provide students with an overview of methods, approaches and research design considerations that are relevant to design, implementation and evaluation of community health research. Many of the topics covered in this course will be discussed in greater detail in other core and elective courses within the MPH program. An emphasis will be placed on providing case examples to help illustrate key points. These case examples will highlight community health research conducted by Northwestern faculty as well as research conducted at other universities.

PUB_HLTH 318-0 Seminar in Community Health Research II (0 Unit)
The Seminar in Community Health Research is a weekly one-hour seminar that is required for all MPH students in the Community Health Research concentration. The student will earn one unit of credit for each year, awarded in the fall quarter. The seminar will provide students with
an overview of methods, approaches and research design considerations that are relevant to design, implementation and evaluation of community health research. Many of the topics covered in this course will be discussed in greater detail in other core and elective courses within the MPH program. An emphasis will be placed on providing case examples to help illustrate key points. These case examples will highlight community health research conducted by Northwestern faculty as well as research conducted at other universities.

**PUB_HLTH 319-0 Seminar in Community Health Research III (1 Unit)**
The Seminar in Community Health Research is a weekly one-hour seminar that is required for all MPH students in the Community Health Research concentration. The student will earn one unit of credit for each year, awarded in the fall quarter. The seminar will provide students with an overview of methods, approaches and research design considerations that are relevant to design, implementation and evaluation of community health research. Many of the topics covered in this course will be discussed in greater detail in other core and elective courses within the MPH program. An emphasis will be placed on providing case examples to help illustrate key points. These case examples will highlight community health research conducted by Northwestern faculty as well as research conducted at other universities.

**PUB_HLTH 320-0 Community Engaged Research (1 Unit)**
This introductory course in community health considers the basic elements that determine health and asks difficult questions about why the richest and most powerful country in world history is so unhealthy? Discussion will focus on differences in communities, community health assessments, principles for effective collaboration with communities and introduction to community health research.

**PUB_HLTH 323-0 Health Equity (1 Unit)**
This course provides an overview of social, economic and political inequities in the United States and their impact on the health of the poor, uninsured, elderly, racial and ethnic minorities, migrants, gendered and sexual groups, rural residents, people with mental and physical disabilities and other vulnerable and socially disadvantaged populations. Past and current policies and trends in health/medical care programs and services at the local and national levels will be discussed. Students will examine social science concepts and theoretical frameworks that will expand their knowledge and skills and empower them to become agents of social change using public health models to impact individuals, families, communities and institutions. Class topics and discussions will centered on: social and income inequalities; access (or lack of) to healthcare, including preventive services and other social resources; roles of government and the legislative process; quality care; legal and ethical issues; among others. Throughout the course, discussions will center on the social determinants of health - neighborhood environments and strategies toward short and long term solutions in the elimination of health disparities and achieving health equity. Discussion about the Patient Protection and Affordable Care Act and recent Supreme Court rulings will also be integrated into many of the discussions.

**PUB_HLTH 330-0 Global Tobacco: Control and Prevention (1 Unit)**
The purpose of the course is to provide students with information on the health problems associated with tobacco use across the lifespan, the consequences of second- and third-hand smoke; new and promising clinical, public health and legal strategies for both prevention and cessation; and international perspectives on tobacco control. Special emphasis will be directed at tobacco use and prevention among vulnerable populations, including youth, minorities and the poor.

**PUB_HLTH 350-0 Dual Degree Seminar: Topics in Public Health for the Physical Therapist (0.5 Unit)**
The Topics in Public Health for the Physical Therapist seminar course sequence prepares the physical therapist/public health professional by explicitly linking and integrating physical therapy practice and public health practice. The course emphasis is to foster awareness of opportunities for the physical therapist/public health professional through discussion and analysis of public health practice and physical therapy practice. This course provides students the opportunity to interact with faculty on topics that integrate physical therapy and public health practice and policy. Goals of this course are to discuss the intersection of population health and clinical practice and the application of core skills needed for success in a physical therapist-public health career. Prerequisite: Only students in the DPT-MPH degree program are eligible to take this course.

**PUB_HLTH 387-0 Seminar in Global Health I (0 Unit)**
The Seminar in Global Health is a weekly one-hour three-quarter (Fall, Winter, Spring) seminar that is required for all MPH students in the Global Health concentration. The seminar will provide students with an overview of the concentration, the interdisciplinary breadth of coursework, and the field and culminating experiences. The seminar will provide opportunities for critical analysis and dialogue on major global health issues. Many of the topics covered in this course will be discussed in greater detail in other core and elective courses within the MPH program and Global Health Concentration. An emphasis will be placed on providing case examples to help illustrate key points. These case examples will highlight global health research and practice. All three courses (PUB_HLTH 387-0, PUB_HLTH 388-0, PUB_HLTH 389-0) must be successfully completed in order to earn 1 credit at the end of spring quarter.

**PUB_HLTH 388-0 Seminar in Global Health II (0 Unit)**
The Seminar in Global Health is a weekly one-hour three-quarter (Fall, Winter, Spring) seminar that is required for all MPH students in the Global Health concentration. The seminar will provide students with an overview of the concentration, the interdisciplinary breadth of coursework, and the field and culminating experiences. The seminar will provide opportunities for critical analysis and dialogue on major global health issues. Many of the topics covered in this course will be discussed in greater detail in other core and elective courses within the MPH program and Global Health Concentration. An emphasis will be placed on providing case examples to help illustrate key points. These case examples will highlight global health research and practice. All three courses (PUB_HLTH 387-0, PUB_HLTH 388-0, PUB_HLTH 389-0) must be successfully completed in order to earn 1 credit at the end of Spring quarter.

**PUB_HLTH 389-0 Seminar in Global Health III (1 Unit)**
The Seminar in Global Health is a weekly one-hour three-quarter (Fall, Winter, Spring) seminar that is required for all MPH students in the Global Health concentration. The seminar will provide students with an overview of the concentration, the interdisciplinary breadth of coursework, and the field and culminating experiences. The seminar will provide opportunities for critical analysis and dialogue on major global health issues. Many of the topics covered in this course will be discussed in greater detail in other core and elective courses within the MPH program and Global Health Concentration. An emphasis will be placed on providing case examples to help illustrate key points. These case examples will highlight global health research and practice. All three courses (PUB_HLTH 387-0, PUB_HLTH 388-0, PUB_HLTH 389-0) must be successfully completed in order to earn 1 credit at the end of Spring quarter.

**PUB_HLTH 390-0 International Public Health I (1 Unit)**
Introduction to International Public Health will orient students to the biological, socio-cultural and economic influences on population-level variation in health and well-being. The continuum between health and illness will be explored, focusing on both the proximate and distal
determinants of variation in health and well-being. Students will learn about key players in international health - the multilateral and bilateral donor communities, Ministries of Health, UN agencies, foundations, NGOs - and understand important shifts in donor policies towards healthcare delivery. They will be introduced to the major health problems currently affecting the developing world and alerted to the importance of employing a population-based vs. a purely clinical approach to solving these health problems.

**PUB_HLTH 391-0 Intermediate Biostatistics (1 Unit)**

This course will build upon the material learned in PUB_HLTH 420-0 Introduction to US Health Care System (1 Unit). Students will be able to state and explain the structure, key facts and important issues pertaining to the U.S. health system. Be able to research topics for further study by becoming familiar with the relevant literature and be able to analyze problems in this sector by understanding applicable frameworks.

**PUB_HLTH 420-0 Introduction to US Health Care System (1 Unit)**

Course Aims: Be able to state and explain the structure, key facts and important issues pertaining to the U.S. health system. Be able to research topics for further study by becoming familiar with the relevant literature and be able to analyze problems in this sector by understanding applicable frameworks.

**PUB_HLTH 421-0 Intermediate Biostatistics (1 Unit)**

Intermediate Biostatistics builds upon the material learned in Introduction to Biostatistics. Specifically, the course will focus on single-outcome, multiple-predictor methods: multiple linear regression for continuous outcomes, logistic regression for binary outcomes, and the
Cox proportional hazards model for time-to-event outcomes. Degree-seeking students must take either this course or PUB_HLTH 422-0.

**PUB_HLTH 422-0 Intermediate Epidemiology (1 Unit)**

This course covers epidemiologic methods used in observational epidemiologic studies including the design, conduct and interpretation of observational studies in human populations with a focus on analytic cross-sectional, case-control studies and cohort studies. Key issues related to statistical approaches, validity of measures of exposure and disease and sources of potential errors in interpreting epidemiologic studies will be addressed. Recommended: PUB_HLTH 421-0. Prerequisites: PUB_HLTH 304-0, PUB_HLTH 302-0.

**PUB_HLTH 425-0 Introduction to GIS and Spatial Analysis for Public Health (1 Unit)**

This course is an introduction to GIS and the collection, maintenance and analysis of spatial data for health. It combines practical ArcGIS skills with study of the theory and applications of spatial data and spatial analysis in general and specifically as it relates to population health.

**PUB_HLTH 430-0 Global Health Research Practicum (1 Unit)**

Students will learn to design an evidence-based and culturally appropriate global health research project or program. Specifically, students will gain competence in analyzing needs and resources; developing a technically and programmatically sound causal pathway; articulating program objectives; designing relevant program components and partnerships, implementing a program, planning program monitoring and evaluation, and ensuring program sustainability.

**PUB_HLTH 431-0 Basic Decision Analysis and Models of Medical Decision Making (1 Unit)**

This course covers quantitative analytic techniques intended to inform decision makers at the bedside, researchers, and those involved with policy-making. Topics include probability, Bayes' theorem, sensitivity and specificity of diagnostic tests, and decision psychology, with a focus on decision analysis, utility assessment, and cost-effectiveness analysis.

**PUB_HLTH 435-0 Health Services Research Design & Analysis Strategies: Technology Assessment (1 Unit)**

This course is an independent study research seminar based on individual student meetings with the instructor and other faculty mentors. The course focuses on completion of a health services research or health policy paper and oral presentation, often in conjunction with MPH program Culminating Experience requirements. Papers require health services research methodological and study design skills or the conceptual and analytical skills needed for public health history or health policy analyses. Learning objectives include applying health services research methods to a public health history or health policy analysis. Practical projects, based on simulated disasters, will be assigned and discussed.

**PUB_HLTH 437-0 Practicum on Epidemiologic Research Design & Data (1 Unit)**

This course provides hands-on experience in the design and analysis of epidemiologic studies, with emphasis on applying methodology learned in intermediate level courses. Through independent projects and class exercises, the course covers practical aspects of conducting research. Public Health students are encouraged to bring ideas for their culminating experience to the course so that they can further develop and refine their research plan.

**PUB_HLTH 438-0 Survey Design & Methodology (1 Unit)**

This course focuses on methodological issues regarding the design, implementation, analysis and interpretation of surveys and questionnaires in Public Health research. Various types of self-report data will be discussed, including knowledge, attitudes, behaviors and patient-reported outcomes. Issues will include formatting and layout, wording of items and response scales, multilingual translations, sampling, timing of assessments, interviewer training, participant recruitment, data analysis and respondent and staff burden.

**PUB_HLTH 439-0 Qualitative Research Methods (1 Unit)**

This course focuses on qualitative research design, sampling, data management, analysis and report writing. Methods covered include cognitive interviewing for survey construction, individual and group interview methodologies, participant observation, writing and using field notes, cognitive tasks such as decision modeling, domain analysis and the use of mapping techniques in qualitative research. Data analysis instruction includes thematic analyses and code development, consensus and network analyses and an overview of qualitative data management programs.

**PUB_HLTH 441-0 Ethical Issues in Clinical Research (0.5 Unit)**

This case-based course provides students with knowledge of the issues surrounding the ethical conduct of research including making ethical choices in the face of conflicts, and gaining a familiarity with the regulations governing human subjects research.

**PUB_HLTH 443-0 Humanitarian Response and Health (1 Unit)**

This is a seminar series focusing on the health aspects of humanitarian crisis response. The course will emphasize the public health aspects (e.g., not the medical or clinical aspects) of response, including rapid assessments, water and sanitation management, shelter, nutrition, communicable disease control, logistics, security and ethical issues. Practical projects, based on simulated disasters, will be assigned and discussed.

**PUB_HLTH 444-0 Advanced Decision Analysis (1 Unit)**

This course covers advanced decision-analytic methods useful in medical decision making. Included are the probabilistic theory of hazard rates and modeling of age-dependent mortality, Markov modeling, stochastic tree modeling, techniques for multi-way sensitivity analysis such as probabilistic sensitivity analysis and information-value analysis and software of stochastic tree modeling. Medical decision-analytic literature is reviewed and theoretical underpinnings of models are explored. A project using decision analysis software is required.

**PUB_HLTH 445-0 Writing and Peer Reviewing for Scientific Publication (1 Unit)**

Writing and Peer Reviewing is an intensive, hands-on, advanced course in writing for publication in biomedical journals and how to be a successful peer reviewer. The student will be expected to prepare an article, respond to two peer review cycles and at the conclusion of the course, to be ready to submit to a journal.

**PUB_HLTH 446-0 Design, Conduct & Analysis of Clinical Trials (1 Unit)**

This course introduces commonly used designs for clinical trials, methods for randomization, blinding and sample size determination, choice of controls, collaborative/multicenter trial requirements and operational issues, data management and data quality issues, interim analysis methods, critical review of clinical trial results and statistical techniques for analyzing data.

**PUB_HLTH 448-0 Introduction to Maternal Child Health (1 Unit)**

This course provides an introduction to the health needs of women and children and the services designed to meet these needs. It introduces the epidemiology of maternal and child health (MCH) and the evidence base.
A monograph on the week's topic in class. Thus there is an exceptional long reading list each week and only 1 hour of classroom, rather than 90 minutes, per week in this ½ unit class.

PUB_HLTH 524-0 Cardiovascular Disease Epidemiology (1 Unit)
The course will cover selected topics in cardiovascular disease with critical analysis of the current epidemiologic literature. Students will have the opportunity to study methodological issues, contemporary findings and recommendations for future research.

PUB_HLTH 526-0 Cancer Epidemiology (1 Unit)
The purpose of this course is to review the basic concepts and issues relevant to cancer epidemiology. Specifically, this course will focus on interpreting cancer statistics and describing the current state of knowledge regarding the etiology and risk factors for the major cancer sites. In addition, issues in research design and interpretation within the context of cancer epidemiology, as well as the molecular and cellular basis of carcinogenesis as it pertains to cancer occurrence in populations will be discussed. The course is appropriate for students who have an introductory knowledge of epidemiology.

PUB_HLTH 550-0 Culminating Experience (1 Unit)
Development and presentation of a culminating research or service project based on one month (or at least 200 contact hours) of fieldwork in a community agency or work on a research project of the student’s choosing (with guidance from a faculty member) in consultation with an adviser or advisory committee. Student presents a seminar and submits a paper on the project.