MASTER OF PUBLIC HEALTH PROGRAM

COURSE GUIDE

ACADEMIC YEAR 2010-2011

Updated June 2010
Explanation of Course Numbering System

The following course guide includes courses that begin with the prefixes MPH and CLR. The guide is organized according to the below areas of Research Focus.

Courses with the prefix “MPH” are those that are offered through the Master of Public Health Program. Courses with the prefix “CLR” are those that are offered through the Clinical Research Education Program.

Guide to courses with the MPH prefix:

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The third number denotes the level:

0  Introduction
1  Intermediate
2  Advanced

The fourth is a number for the course itself.

Course Pre-Requisites

Please note: some courses require that students have taken certain pre-requisites. Oftentimes these pre-requisites are fulfilled when the student takes the core introductory level courses. Students will not be eligible to take a course if they lack the required pre-requisites. Please refer to the course description in the Course Guide for information on a course’s pre-requisites.
General Public Health

**MPH0001  Introduction to Public Health**

Course Directors: Philip Landrigan, MD, MSc  
Autumn Term  
Tuesdays  

This introductory course will provide a broad overview of public health – its history, triumphs and challenges, as well as its prospects for the future. The course will provide a strong foundation for students entering the Master of Public Health Program. A principal goal of the course is to give students an understanding of the structure and function of the public health system in the United States and internationally. Some of the leading figures in public health in this country and abroad will be invited to present lectures, and they will provide students with a sense of the breadth and depth of public health as well as a sense of the extraordinary range of career opportunities that exist in this ever changing field.

**MPH0002  Disease Prevention & Health Promotion for Non-Health Professionals**

Course Directors: Emily Senay, MD, MPH and Mary Foley, MS, EdD  
Autumn Term  
Thursdays  

Preventive Medicine is the branch and practice of medicine focused on promoting health thereby preventing disease from both an individual and population perspective. Preventive Medicine specialists study the health of populations, develop screening guidelines in asymptomatic people, determine factors for disease and propose evidence-based treatment algorithms and health promotion strategies and evaluation of those strategies. Preventive Medicine and public health are strongly linked through a shared focus on health surveillance of health indicators to better understand the health of the public.

Designed for the non-healthcare professional, this course introduces students to the field and the varied professionals who work within it. The course focuses on the top causes of morbidity and mortality in the United States, the surveillance methods used in detection, and current goals and guidelines for screening and prevention on a local and national level. Specific topics will include the latest methods to detect and prevent cardiovascular diseases, cancers, infectious diseases, depression, substance abuse, suicide, unintentional injuries, violence, and environmental health threats. The final lectures will show how prevention is currently put into practice and discuss future challenges and global threats to public health.

**MPH0003  Current Topics in Clinical Preventive Medicine**

Course Directors: Richard Bordowitz, MD and Elizabeth Garland, MD  
Winter Term  
Tuesdays  

This course builds on the fundamental aspects of clinical prevention and the United States Preventive Services Task Force Guidelines. Designed for the healthcare professional, the course will include discussions about new evidence-based approaches that guide clinicians regarding the appropriateness and utility of new preventive services, screening tests, guidance for counseling patients, and an examination of current interventions at the community level, in addition to current controversies and research in the prevention field.

This course is limited to licensed medical professionals with the exception of those who receive permission from the course director.

Updated June 2010
MPH0004 Public Health and Disabilities

Course Director: Marcel Dijkers PhD
Winter Term
Mondays

3 credits

Years Taught: 1

Public health practice increasingly deals with disability and the health and wellbeing of people with disabilities. This course offers an introduction to various issues relevant to research and practice in this area, including: definitions and models of disability; disability in historical and cross-cultural perspective; the measurement of disability and disability epidemiology; the health of people with disabilities: determinants, disparities; health promotion and secondary disabilities; primary, secondary and tertiary prevention of disability; the consequences of disability and public health responses; disaster preparedness and people with disability; culture and disability and the culture of disability groups. Through class discussions and assignments, students will become aware of the requirement for public health programs to address the special needs of people with disabilities, and opportunities for doing so.

Pre-requisites: MPH0001 Introduction to Public Health (may be taken concurrently)

MPH0005 Geographic Information Systems (GIS) for Public Health

Course Director: Chris Goranson, MGIS, GISP
Spring Term
Wednesdays and Fridays

1 credit

Years Taught: 3

Geographic Information Systems (GIS) are used by public health professionals to better understand relationships between health and the environment, the geographic and temporal transmission of disease, and access to health care. This rapidly-changing field is seeing an expansion in the application of geography to better understand a number of health outcomes, thanks in part to new web-based tools and desktop technologies that make the use of GIS data and methods more accessible to a broader audience. This hands-on course will focus on the fundamentals of geographic information and how the technology can be applied to public health. Topics covered include an introduction to key considerations for applying GIS to public health; how to find and prepare demographic and health data for mapping; standard cartographic principles; geocoding; and an introduction to spatial analysis methods. The course will also illustrate how geographic data can be moved between more traditional GIS software (ESRI’s ArcGIS) and newer technologies (Google Earth and open source GIS applications).

MPH0008 Introduction to Public Health Nutrition

Course Directors: Laurie Tansman, MS, RD, CDN
Autumn Term
Mondays

2 credits

Years Taught: 4

Never before has Public Health Nutrition been so exciting! This course is designed to provide an introductory overview of Public Health Nutrition concepts and issues while educating the student about the most current Public Health Nutrition Issues. It will deliver a broad but balanced approach to the factors that comprise Public Health Nutrition, including epidemiology, nutritional sciences, government nutrition programs as well as an understanding of who makes public health nutrition recommendations and the underlying politics. Over the past couple of months there have been sweeping changes and recommendations for the food industry to address the sodium and sugar content of processed foods. This along with the newly released 2010 Guidelines for Americans as well as the new guidelines for Vitamin D intake will be addressed. The course director has given public testimony on many of these issues at the local, state and
national level. Students will be provided with the opportunity to give their opinion in a public format on many of these new changes and recommendations.

**MPH0010  Zoonoses: An Emerging Public Health Issue**

Course Director: Stephanie Factor, MD, MPH  
Spring Term  
Thursdays  
3 credits  
Years Taught: 3

Zoonoses, diseases transmitted from animals to humans, are increasingly being recognized as emerging or re-emerging disease threats to public health. This course will explore the interactions between physicians, veterinarians, and public health professionals; provide an understanding of the public health consequences of these diseases; and explore preventive measures. Finally, we will set the framework for discussions of agents of bioterrorism and the public health response to these threats. The course attracts top speakers from across the country in the fields of public health, infectious diseases, veterinary medicine, and the biomedical sciences.

**MPH0021  Seminar in Applied Preventive Medicine**

Course Director: Elizabeth Garland, MD, MS  
Full Year Course  
Tuesdays - Morning  
2 credits  
Years Taught: 12

This weekly seminar focuses on current local, national, and international issues in public health and preventive medicine. Discussions center on critical review of the published literature in public health and include topics related to health policy and management, economic and legal issues, and the impact of these issues on the health of populations. On a rotating basis, each student is responsible for setting the agenda and chairing seminar discussions.

Pre-requisites: MPH0300 Introduction to Biostatistics  
MPH0400 Introduction to Epidemiology

Students who are not Residents in the Department of Community & Preventive Medicine must receive permission from Course Director prior to enrolling in this course.
Health Policy, Management & Economics

MPH0103 Strategic & Program Management
Course Director: Gary Rosenberg, PhD
Winter Term 3 credits
Wednesdays Years Taught: 6

This course is an introduction to understanding health management, program and project planning, implementation and evaluation. The course provides an introduction to human resource management, budgeting and financial management, social marketing and organizational analysis. Through readings, class discussion and case analysis, students will have the opportunity to explore and identify key issues impacting the management of public health programs; formulate and evaluate alternative solutions to problems; learn verbally and in writing to present analysis of managerial problems and plans. They will learn to apply strategic thinking to managing public health programs and critically analyze management strategies and organizational design which lead to successful or failed outcomes in public health programs.

MPH0104 Healthcare in Communities & the Public Sector
Course Director: Gary Rosenberg, PhD
Spring Term - Every other year - Next offered Spring 2012 3 credits
Wednesdays Years Taught: 4

The focus of this class is on understanding the public health system, community-based care and community assessment and intervention. Students will learn how to analyze communities, compare data regarding the health status of communities and how to compare selected communities to each other. Case material will be used to emphasize the multiple ways one can assist communities as a whole and those at risk for health problems. Exemplars will be offered by guest lecturers involved in community change. Social and economic factors will be identified that affect community health.

MPH0105 Health Economics
Course Directors: Leo Trasande, MD, MPP and Melissa Carlson, PhD, MBA
Winter Term 3 credits
Thursdays Years Taught: 2

Economics provides the tools to illustrate and analyze the costs of making alternate choices, offering an opportunity to more fully understand the decision-making process. Using an established set of criteria to evaluate the use of scarce resources, economists attempt to explain and predict outcomes. The study of economics as it relates to the healthcare industry is different from basic economics because individuals do not have complete knowledge of their healthcare needs and treatment options. As patients, consumers must rely upon healthcare professionals, who, in turn, are confronted with a myriad of challenges as the management and treatment of disease is not without its uncertainties. This course will discuss the role and importance of economics in the micro- and macro- context faced by healthcare professionals and the industry-at-large.
**NEW**     MPH0106      Public Health: Politics and Policy
Course Director: Leo Trasande, MD, MPP
Spring Term  3 credits
Tuesdays

This course will explore political history that has guided public health decisions in the past, and will empower students with the skills to shape policy at local, national and international levels. Case studies will rely upon heavy student involvement in discussion, and exercises will be used to enhance oral communication skills.

**NEW**     MPH0107     Accounting & Budgeting for Public Health Administration
Course Directors: Frank Cino and Gary Rosenberg, PhD
Spring Term  3 credits
Tuesdays

Financial statements enable managers to evaluate the performance of an organization and assess its financial position. Budgets, based on forecasts, take the form of projected statements and serve as an important managerial tool for planning and control purposes. This course provides an introduction the accounting, budgeting and financial reporting techniques commonly used in the health care and not-for-profit environment. Emphasis is placed on enabling students to become comfortable with financial analysis, budgets and commonly-used financial terminology so that they can effectively address financial matters they will encounter in leadership roles in health care and not-for-profit organizations.

**NEW**     MPH0110     Pharmacoeconomics
Course Director: Renee Arnold, PharmD
Winter Term  3 credits
Thursdays

This course provides an introduction to the major concepts and principles of pharmacoeconomics, with particular emphasis on modeling, methodologies and data sources. Students will learn about the international use of pharmacoeconomics in drug approval, regulation and pricing. Examples of pharmacoeconomic models used by the pharmaceutical industry and in government will illustrate the theoretical lessons.

Pre-requisites: MPH0001 Introduction to Public Health
                MPH0105 Health Economics
Socio-Behavioral Health

MPH0201 Introduction to Socio-Behavioral Health

Course Directors: Mary Foley, MS, EdD and Michael Diefenbach, MD
Spring Term 3 credits
Mondays

This core course provides an overview of the social and behavioral sciences and their importance in the interdisciplinary field of public health. A primary emphasis is on the social ecological model, its application to public health issues, and its use in the development of policies, strategies, interventions and programs. The course content will introduce students to several relevant social and behavioral theories as well as a range of community health assessment and planning models used by public health professionals in both domestic and international venues. In addition, some lectures will focus on specific diseases that have a detrimental effect on public health and finally, a few lectures are reserved to provide students with insight into public health organizations. Through a series of assignments, students will enhance their knowledge and awareness of the role of social and behavioral sciences in public health and its relevance to their specific discipline.

MPH0203 Introduction to Medical Anthropology

Course Director: TBD
Spring Term 3 credits
Mondays

This course provides an introduction to the major theoretical perspectives and themes in contemporary medical anthropology. Medical anthropology examines the concepts and beliefs about illness, healing, and the body across cultures.

Using a comparative perspective, the course explores the impact of culture on the framework and understanding of health and illness (e.g., What does it mean to be healthy or sick?). Students will gain an understanding of the ecological, political, and social forces that affect health and will use a cultural perspective to gain insights to the treatment of disease (e.g., How does socioeconomic status, race, gender, and ethnicity affect health? Do immigrants from the Dominican Republic use medicinal plants or foods from their country of origin to treat particular diseases and ailments?).

An important objective of this course will be to critically examine the biomedical paradigm, the biology of disease.

CLR0207 Culture, Illness & Community Health

Course Directors: Gary Butts, MD, Edward Poliandro, PhD and Ann-Gel S. Palermo, MPH
Spring Term 3 credits
Wednesdays

Culture is defined as the integrated pattern of human behavior that includes thoughts, communications, actions, customs, beliefs, values and institutions of a racial, ethnic, religious or social group. Using various methods such as case presentations, small group discussions, and collaborative, introspective and self-directed learning experiences, participants will enhance their appreciation of culture as a predominant force in shaping behavior, values and systems that effect health. Through this course, participants will also enhance their competencies necessary to provide effective health care and to conduct research with diverse patients and communities.

Updated June 2010
The U.S. population faces well-recognized health risks including chronic diseases, environmental degradation, and natural and man-made disasters. But there is a silent killer, less diagnosed and essentially untreated, maneuvering just below the surface that poses a great threat to public health in the 21st century. This silent killer is low health literacy – the reality that almost half of adults in the U.S., over 90 million people, struggle to find, understand, and correctly use basic health information. The consequences of low health literacy include inadequate skills to understand health and environmental health risks, to take actions to mitigate these risks, to access and use the health systems, lack of social empowerment and self-efficacy, poor health outcomes, diminished quality of life, and increased financial costs to society. In this course we will discuss an elaborated model for understanding health literacy. The new model delineates the role of four core domains: fundamental literacy, scientific literacy, civic literacy and cultural literacy. Students will learn principles of health literacy in the areas of science, civic and cultural literacy that they can apply to improve their daily performance as health professionals. Students will also learn to recognize some health literacy demands their health specialty or health focus places on the average layperson and low health literate patients/consumers.

MPH0211 Addiction Medicine
Course Directors: Mary Foley, MS, EdD and Elizabeth Garland, MD, MS
Autumn Term - Every other year - Next offered 2011 2 credits
Thursdays Years Taught: 9

This course covers issues in prevention, recognition, treatment, policy, and research in addictions and dependencies. The overall course goals are to provide knowledge in the field of addictions and dependencies, inculcate or reinforce positive attitudes, and identify areas of needed clinical and translational research. Taught by knowledgeable citywide experts in the addiction specialty, the course consists of 12 distinct but interrelated sessions. Topics for the sessions include pharmacologic and behavioral therapies for drug, alcohol, licit and illicit substances, and tobacco addictions, harm reduction, managed care, and addictions in special populations, and public health policy, among others. Students will be required to attend at least one AA or NA meeting. Classes are conducted in seminar format. Specific clinical or field experiences for students enrolled in the course can be arranged upon request.

MPH0212 Life Cycle of Violence: Implications for Public Health
Course Director: Andrea Rothenberg, MS, LCSW
Winter Term 2 credits
Thursdays Years Taught: 4

From infanticide to abuse of the elderly, multiple forms of violence remain a concern for individuals, families, communities, and the world at large. Once thought of solely as a criminal justice issue, violence prevention and intervention have been embraced as a major public health issue. This course will examine vulnerable populations, phases of life, and world conditions in which violence are most prevalent. Emphasis will be on identifying the needs of populations at risk; creating partnerships with other organizations, implementing evidence based interventions, and measuring success.

Updated June 2010
Pregnancy during the second decade of life is a complex issue requiring multifaceted interventions on a primary, secondary, and tertiary level. A broad range of sociological, cultural and behavioral issues affecting adolescent pregnancy will be explored. Topics will include: predisposing and contributing factors to early pregnancy, protective factors and assets building during development, the strengths perspective, access to reproductive healthcare for women and men, options counseling, and evidenced based pregnancy prevention and intervention programs.

Teen mothers, young fathers, and the parents and children of teen parents as well as teens who have chosen not to have a baby will be guest speakers. Emphasis will be on assisting healthcare providers explore the latest trends in this area as well as their individual attitudes and beliefs about early pregnancy and parenting in order to enhance their ability to work effectively with young women and their families.
Quantitative & Qualitative Research Methods

**MPH0300  Introduction to Biostatistics**

Course Director: Jim Godbold, PhD  
Autumn Term  
Mondays and Wednesdays  
3 credits  
Years Taught: 22

Students will learn how to conduct descriptive and univariate analyses of data from a well-designed public health or medical study and how to interpret the results of the analyses. Students will learn how to present numerical summary measures derived from large data sets as well as appropriate use of graphical displays. Basic concepts of probability theory will be covered, along with notions of conditional probability, illustrated with measures for assessing efficacy of diagnostic and screening tests. Important probability distributions, such as the Normal and binomial, will be discussed, and students will be able to solve problems involving probabilities calculated from these distributions.

Students will learn how to perform the three basic types of statistical inference: point estimation, hypothesis testing, and confidence intervals. In particular, students will learn how to apply the t-test to compare two means, and how to apply the analysis of variance (ANOVA) to compare three or more means. Non-parametric tests will be illustrated as alternatives to t-tests or ANOVA when the assumption of Normality is in doubt. Students will learn how to use chi square methods to analyze categorical data. Students will also learn how to recognize censored data arising from historical or concurrent prospective studies, how to apply techniques of survival analysis to generate Kaplan-Meier curves, and how to use the log-rank test to test for differences between curves. Simple linear regression and correlation will be discussed as methods for examining the relationship between two continuous variables, along with ways to evaluate the appropriateness of the regression model that has been fit to the data.

In the outside project, students will have the opportunity to assess the appropriateness of use of statistical methods in the published literature.

**MPH0305  Introduction to Qualitative Research Methods**

Course Director: Carol Horowitz, MD, MPH  
Autumn Term  
Thursdays  
3 credits

Heart disease, toxicants in food and water, HIV/AIDS, bio-terrorism and avian flu – we live in an ever-changing landscape of risks where information alone does not necessarily lead us to practice good health behaviors. How people perceive, comprehend and prioritize the health information around them powerfully effects what they act on.

This course provides the student with an understanding of how attitudes and perceptions of an individual or group can impact their priorities and actions. Qualitative methodologies bring an enhanced understanding to quantitative research. The qualitative research methods we will cover in this course include: ethnographic/participant observation, in-depth interviews, focus groups, panels and small-scale surveying. Students will be required to design and conduct small field research activities throughout the semester. Methods and findings will be critiqued and refined with class input and participation.

Updated June 2010
MPH0311  Multivariable Methods

Course Director: John Doucette, PhD
Winter Term                           3 credits
Thursdays                            Years Taught: 12

This intermediate-level biostatistics course involves in-depth study of statistical methods that examine the relationship among multiple (i.e., more than 2) variables at the same time. The methods covered include linear regression, logistic regression and Cox proportional hazards models. Students will also learn about tests of model fit, regression diagnostics, and representation of categorical independent variables and transformations of dependent variables. Students are shown how to apply these methods using statistical software (SPSS®) and how to interpret the resulting computer output.

Pre-requisites: MPH0300 Introduction to Biostatistics
                MPH0400 Introduction to Epidemiology (may be taken concurrently)

MPH0320  Research Methods

Course Director: Mary Foley, MS, EdD
Autumn Term                           1 credit
Wednesdays                            Years Taught: 2

Research Methods encompasses a set of fundamental skills and tools necessary for approaching the process of developing and answering a research question or being an informed consumer of information in the marketplace. This course provides a solid and practical framework enabling students to successfully embark upon their Master’s Theses. The course is an essential component to understanding how to organize research: helping students to conceptualize, develop, propose, design, and write research papers, in general, and the Thesis, in particular.

Students are required to take this course in the Autumn Term of their second year in the Master of Public Health Program. The course is only open to matriculating students in the Master of Public Health Program. Non-matriculated students may take this course with prior approval from the Course Director.

This 1 credit course will be graded on a Pass/Fail basis.

CLR TBD  Designing Clinical & Population Based Research

Course Directors: Henry Sacks, MD, PhD and Albert Siu, MD, MSPH
Autumn Term                           3 credits
TBD                                   Years Taught: 11

Updated June 2010
Epidemiology

MPH0400 Introduction to Epidemiology
Course Director: Stephanie Factor, MD, MPH
Winter Term 3 credits
Mondays and Wednesdays

This introductory course focuses on the fundamental concepts of epidemiology and its application to the field of public health. The course will provide students with an insight to epidemiologic methods and how they can be used to study health outcomes in human populations. Students will learn the elements of epidemiology, such as causation, study design, measures of effect, and potential biases. Practical and theoretical training will include lectures, small group discussions, and readings.

MPH0401 Introductory Journal Club
Course Director: Yvette Sealy, PhD, MPH
Full Year Course 1 credit
Once per month

The Journal Club provides students with a functional opportunity to learn to read, analyze, and critique the professional literature under the guidance of a variety of faculty members from the Mount Sinai Medical Center. At least one week before each scheduled Club meeting, the invited faculty member selects a current article from the public health literature. The faculty member serves as discussion moderator and students attend class prepared to discuss the assigned reading. In the Winter and Spring Terms, students will have a role in selecting the topics to be discussed.

The Club meets once each month from September to June (students enroll for this year-long course in the Autumn Term). This course is graded on a Pass/Fail basis.

MPH0410 Epidemiology of Infectious Diseases
Course Directors: Tiffany Harris, PhD and Preeti Pathela, Dr.PH
Spring Term 3 credits
Wednesdays

Epidemiology of Infectious Diseases builds upon the concepts presented in Introduction to Epidemiology (P400), stressing the importance of considering the host, environment and disease agent in transmission dynamics. The nineteenth and twentieth centuries witnessed advances in prevention, treatment, and study of infectious diseases and the misconception that infectious diseases were disappearing. The study of infectious diseases leads to the continual development of vaccines, antibiotics, and technology, prompting epidemiologists to develop more advanced methods to monitor disease, investigate patterns of disease transmission, and evaluate innovative prevention modalities. The past thirty years have brought to light both new and re-emerging problems in the epidemiology of infectious diseases, including HIV, SARS, avian influenza, arboviruses, antimicrobial resistance, and the threat of bioterrorism.

Through varied lectures, this course will enable students to gain an understanding of the principles of infectious disease epidemiology, including modes of transmission, quantification of occurrence and risk, and methods for preventing disease at the population level. Students will also participate in various classroom exercises, during which they will investigate outbreaks,
create surveillance plans, present evidence of a disease threat, and recommend prevention and control measures.

Pre-requisites: MPH0300 Introduction to Biostatistics
MPH0400 Introduction to Epidemiology

**MPH0411 Journal Club for Health Professionals**

Course Director: Lisa Littman, MD. MPH

Full Year Course 1 credit
Tuesdays every other week

This intermediate level Journal Club builds upon the Introductory Journal Club, training students in the presentation of articles relevant to the public health specialties of environmental, occupational and preventive medicine. Each student will be assigned a week to be responsible for selecting and presenting an article relevant to their area of specialization. The student may decide to invite a Mount Sinai faculty expert in the particular topic to provide additional commentary on the article. Prior to class, all students are required to read the article and complete a short critique form. All students are expected to participate in class discussions.

Pre-requisites: MPH0300 Introduction to Biostatistics
MPH0400 Introduction to Epidemiology

Students must be currently licensed health professionals, however if they are not currently licensed they must obtain the approval of the Course Director to enroll.

The Club meets twice a month for the academic year. This course is graded on a Pass/Fail basis.

**MPH0415 Case Studies in Epidemiology: Environmental & Occupational Health**

Course Director: Anne Golden, PhD

Spring Term - Every other year - Next offered 2012 3 credits
Fridays Years Taught: 7

This course teaches students the practical steps involved in conducting an epidemiological investigation of a disease occurring in the workplace or due to a wider environmental exposure. Class discussions involve problem-based analysis of published case studies led by faculty with particular expertise in the relevant area of environmental or occupational epidemiology. Statistical analysis of datasets derived from case studies will be required for midterm and final evaluations.

Pre-requisites: MPH0300 Introduction to Biostatistics
MPH0400 Introduction to Epidemiology
MPH0522 Basics of Clinical Environmental & Occupational Medicine
or
MPH0500 Introduction to Environmental & Occupational Health

Updated June 2010
Environmental & Occupational Health

**MPH0500  Introduction to Environmental & Occupational Health**

Course Director: Aboaba A.A. Afilaka Jr., MD, MS, MBBS.

Winter Term  3 credits
Tuesdays

The purpose of this course is to provide an overview of environmental and occupational medicine. Topics covered include basic principles of exposure assessment; adult and pediatric environmental and occupational history taking essentials; heavy metal exposures in adults and children; environmental and occupational aspects of lung disease in adults and children; the effects of environmental exposures on the kidney; investigations of environmental disease clusters; and occupational screening programs. The course format consists of participatory lectures using clinical cases as much as possible. Readings will be distributed in class at least one week before the lecture.

**MPH0506  Topics on Safety and Ergonomics**

Course Directors: Alice Freund, MSPH and Jonathan Dropkin, MS

Winter Term  1 credit
Mondays  Years Taught: 5

This course consists of ten evening sessions held approximately every week on a variety of topics on safety and ergonomic program management. The purpose of the class is to give public health students insight into the everyday workings of on-the-job safety programs. It is designed for doctors, health administrators, and other health and safety professionals who will have a role in implementing safety and ergonomic programs in industry, business or union settings. There will be weekly reading assignments and two field visits to observe elements of safety and ergonomic programs.

The topics covered will include: Safety History and Scope of Current Injuries and Fatalities; Hazard Identification and Interpreting Injury and Illness Data; Incident/Accident Investigations and Root Cause Analysis; Elements of an Ergonomics Program, including hazard identification and control of occupational biomechanical and psycho-social exposures, and medical surveillance; Role of Labor and Management in Safety Programs; Making a Case for Safety; cost analysis and legal responsibilities; Examples of Safety Programs in certain trades. The class format will be informal and participatory, relying heavily on class discussion of the readings.

**MPH0515  Toxicology**

Course Director: Arlene Weiss, MS, DABT

Spring Term  3 credits
Tuesdays  Years Taught: 4

This course provides an introduction to the major concepts in toxicology with particular emphasis on specific chemical agents and classes of agents including pesticides, metals, solvents and vapors. The difference between a toxin and toxicant is discussed. Toxicokinetics and toxicodynamics are presented in a lecture. Students will learn about the history of toxicology and the mechanisms of action of certain classes of compounds. Specific target organ toxicities are covered including, hepatic, renal, dermal, cardiovascular, pulmonary, neuronal, developmental, reproductive, and endocrine systems. When available, resource information regarding databases is presented. In addition, case vignettes consisting of specific toxicological
agents and their effects in the form of real-life case studies with physical findings, lab data and the actual diagnoses with a relevant discussion of the agent and the management of the toxic effect. The text used for the class is Casarett & Doull’s Essentials of Toxicology (Klaassen and Watkins, McGraw Hill 2003) and Toxicology Pearls (Osterhoudt et al. Elsevier Mosby, 2004).

**MPH0522 Basics of Clinical Environmental & Occupational Medicine**

Course Director: Debra Milek, MD  
Summer Term  
One Week  
3 credits  

Environmental and occupational exposures known to cause human disease are examined from the perspectives of clinical diagnosis, toxicology, and treatment. Regulatory and other approaches to reduce exposure will be deliberated. Important public health and policy implications will be discussed.

The course is limited to licensed physicians except with the permission of the Course Director and Specialty Track Advisor of the Environment & Occupational Health specialty track.

**MPH0523 Advanced Occupational & Environmental Pulmonary Disease**

Course Director: Jaime Szeinuk, MD  
Autumn Term  
Tuesdays  
Years Taught: 4  
2 credits  

Pulmonary disease due to occupational and environmental exposures has historically been at the center of the practice and science of occupational medicine. In industrialized countries, occupational asthma is currently the number one occupational lung disease. This course will review pulmonary diseases caused by occupational and environmental exposures from the perspectives of clinical diagnosis, toxicology, and treatment. Regulatory and other approaches to reduce exposure will be discussed. Public health and policy implications will be considered as well.

This course is limited to currently licensed healthcare professionals.

**MPH0525 Pediatric Environmental Health**

Course Director: Joel Forman, MD  
Spring Term  
Mondays  
Years Taught: 4  
3 credits  

This course introduces the learner to the potential health effects in children from exposures to chemical and physical agents from indoor and outdoor environments, such as lead and mercury, a wide variety of organic chemicals such as solvents, pesticides and air pollutants, and molds. It covers the basic principles of exposure assessment; skills in pediatric environmental exposure history taking; and the adverse effects of environmental exposures on child neurodevelopment. Students learn how to design risk communication strategies for environmental exposures targeted to a specific group of children, access pediatric health reference material, apply state of the art clinical evidence in the formulation of public health policy, and advocate for child health. The course format is participatory, and includes journal article critiques and reviews, lectures and clinical case scenarios.
Outcomes Research

MPH0621  Seminar in Applied Clinical Epidemiology and Health Services Research

Course Director: Alex D. Federman, MD, MPH
Full Year Course  3 credits
Fridays every other week  Years Taught: 4

This seminar focuses on current methodological, analytical and logistical issues in clinical epidemiology and health services research. The course helps participants develop, refine, implement, and evaluate a quantitative clinical epidemiology or health services research study. Attendees also learn to critically evaluate the methodological strengths and weaknesses of key clinical research designs including: retrospective and prospective cohort studies, patient and physician survey research, secondary dataset analysis, and interventional studies. All seminar members must present a research proposal during the one year period, as well as participate actively in critique and feedback to other presenters. The course is primarily intended for clinician trainees in the MPH outcomes research track or Masters of Science in Clinical Research (MSCR) program.

Pre-requisites: MPH0300 Introduction to Biostatistics
MPH0400 Introduction to Epidemiology

Students who are not clinical fellows matriculated in the MPH or MSCR program must receive permission from the Course Director prior to enrolling in this course.

This class meets on alternate weeks and is graded on a Pass/Fail basis.

MPH0623  Applied Analysis of Epidemiologic and Outcomes Research Data

Course Director: Juan Wisnivesky, MD
Spring Term  3 credits
Wednesdays  Years Taught: 2

This course is focused on learning the application of statistical methods for the analysis of epidemiologic and patient-oriented observational data. The emphasis will be on hands-on experience, involving case studies with real data and using the statistical software SPSS. The focus will be on choosing and on implementing the appropriate statistical methods to analyze and interpret different types of data. Attention will also be paid to the theory behind these tests and on testing the validity of the assumptions. The course will cover data management, exploratory data analysis, model formulation, goodness of fit testing, and other standard procedures, including linear regression, analysis of variance, logistic regression, and survival analysis. Prospective students are invited to propose a data set of their choice for use as case study material. The grade will be based on the homework, midterm, and a final exam. This course will be particularly well suited to students who are actively involved in an epidemiology, outcomes, health services, or survey research project that is entering the data analysis phase.

Pre-requisites: MPH0300 Introduction to Biostatistics
MPH0311 Multivariable Methods
The goals of this course are to provide students with a theoretical understanding and hands on experience in advanced epidemiology and outcomes research methods. The course will provide a review of each method within an interactive computing environment. Assignments requiring computer analysis of clinical data will be provided with each topic. Areas to be covered include decision analysis, cost-effectiveness analysis, propensity score analysis, instrumental variable analysis, clinical prediction rules, and analysis of repeated measurements.

Pre-requisites:
- MPH0300 Introduction to Biostatistics
- CLR0004 Designing Clinical & Public Health Research
- MPH0311 Multivariable Methods
Global Health

**MPH0700 Introduction to Global Health**

Course Director: Nils, MD, PhD, MPH
Autumn Term 3 credits
Tuesdays

This course provides an introduction to the major concepts and principles of global health with particular emphasis on neglected populations. The course provides students with an understanding of the principles of health within the context of development, human rights, and globalization, and provides an appreciation of the varied challenges and controversies. Students will learn about the establishment of global health priorities, developing an appreciation for issues related to underserved populations. Students will learn about the major players in the global arena and challenges of financing. A multidisciplinary approach is used to discuss the major determinants of health and disease with particular emphasis on the relationship between health and socioeconomic development. At the end of the course, students will be introduced to the most important challenges and variables of global health and their interactions. They will be prepared to advance to more specific and in-depth courses of the Global Health Track. A high level of classroom participation with active contributions to classroom discussion and debate will be expected.

**MPH0705 Health of Underserved and Immigrants**

Course Director: Ramin Asgary, MD, MPH
Spring 2011 3 credits
Tuesdays

There are numerous underserved populations here in the United States with significant variability in health status among different communities. This course will examine these inequities, with a particular emphasis on their public health consequences. It discusses social determinants of health and access issues at all three levels of policy and system, individual, and providers, and explores the situations in a variety of underserved populations in the U.S including racial disparities, health of migrants and immigrants, uninsured and under-insured, along with various underserved populations in urban city and rural living. This course will illuminate how the health of the many groups living within the United States remains unequal.

**MPH0707 Humanitarian Emergencies and Refugee Health**

Course Director: Ramin Asgary, MD, MPH
Spring Term 2 credits
Thursdays

International humanitarian emergencies have been increasing over the past three-four decades largely due to war and political conflicts. Some of these emergencies have become chronic in nature contributing to significant increase of mortality and morbidity worldwide over prolonged period of time and affecting disproportionately developing and under-developed nations and poor. Many of these humanitarian situations result in massive displacement of population. Refugees confront problems beyond geographic dislocation from their homes; they face socio-cultural, economic, and health consequences on an individual level as well as on a broader population level. Displacement may result from natural disasters or man-made problems such as civil unrest and war. In many recent circumstances, population dislocation has resulted from a combination of both.
This course provides insight into the root causes of humanitarian emergencies with historical case examples, and will focus on the public health aspect of humanitarian emergencies and the impact of displacement on populations. The course will explore: the major causes of diseases and death; rates of morbidity and mortality and how they are measured; public health surveillance during the emergency and immediate post-emergency phases; how to identify the most vulnerable groups; ensuring an adequate and safe food supply, proper sanitation, and acceptable shelter; understanding the public health challenges such as epidemics; and the broad psycho-social impact of being labeled a refugee.

MPH0709   Careers in Global Health

Course Directors: Sigrid Hahn, MD and Natasha Anushri Anandaraja Wagner, MD
Full Year Course 2 credits
Once per month Years Taught: 2

This course exposes students to career options in global health. Through informal discussion with global health practitioners working in a variety of settings, students will gain an understanding of the scope of career options and address career development. Prior practitioners have included physicians and public health experts from domestic and international non-governmental organizations, and federal organizations such as the U.S. Public Health Service.

MPH0710   Global Environmental Change

Course Directors: Sigrid Hahn, MD and Emily Senay, MD, MPH
Winter Term 2 credits
Mondays Years Taught: 1

A growing number of environmental problems are negatively impacting human health, including climate change, stratospheric ozone depletion, loss of biodiversity, changes in hydrological systems and the supplies of freshwater, accumulation of environmental toxins, deforestation, and the degradation of agricultural land. Recognizing the link between health and the ecosystem requires an understanding of the complex relationship between humans and the biosphere's life-supporting systems.

This course will focus on how global environmental change is affecting human health. The topics included in this course build upon available evidence from different parts of the world, including the cause and impact of natural and man made disasters, land use changes, poor housing, export of hazardous waste, environmental refugees, food and water insecurity, as well as overarching themes such as environmental injustice. We will discuss the public health policy implications of an out-of-balance global ecosystem, and the major challenges it represents to physicians, scientists, institutions, governments and concerned communities. We will also discuss local and global solutions to various problems described above.

MPH0713   Health and Human Rights: Human Rights Abuses, Torture & Its Consequences

Course Director: Ramin Asgary, MD, MPH
Autumn Term 3 credits
Wednesdays Years Taught: 4

More than 500,000 torture survivors are currently living in the United States. Asylum seekers and torture survivors face multiple health consequences from an individual perspective in
addition to multi-faceted challenges in a socio-cultural and economic context. The impact on health includes both the physical and psychological impact of torture over and above issues related to the person’s relocation and displacement challenges.

Public health and healthcare professionals are often unaware of the prevalence of torture in the communities they serve. The United Nations Convention against Torture has identified this unmet need and has called for all healthcare professionals to be able to identify and provide services to survivors of torture.

This course is developed to raise students' awareness of human rights abuses, specifically torture, provide education in the epidemiology of torture and the demographics of survivors, as well as understanding the health consequences of human rights abuses. At the end of the course, students will be able to discuss policy and advocacy options. The course explores the multidimensional health challenges faced by survivors and their caregivers. It introduces students to the management of the survivors' health complaints and strategies for accessing available medical and social services. The course prepares students to evaluate and care for torture survivors how to document the physical and psychological needs in affidavits necessary for those seeking asylum. Students will be prepared to engage in improving the health of a frequently ignored population in the policy and medico-legal arenas.

**MPH0717 Maternal & Child Health in Developing Countries**

Course Directors: Nils Hennig, MD, PhD, MPH and Natasha Anushri Anandaraja Wagner, MD  
Winter Term 3 credits  
Tuesdays  
Years Taught: 4

This course introduces the student to the problems facing mothers and children in developing countries. They will learn how infection, malnutrition and maternal-child health services affect the outcomes of pregnancy and impact child survival and development. Issues like HIV/AIDS, malaria, diarrheal disease, sexual violence, malnutrition, and community based interventions will be examined in detail. The course will explore potential solutions to maternal-child health problems. A main focus of the course will be evidence-based interventions. Teaching is skill based and students will be involved in intensive small group problem solving exercises. Students will learn the necessary skills to be part of the solution regarding the problems facing underserved mothers and children in the developing world. Introduction to Global Health is a prerequisite for attending this course.

**MPH0720 Preparation for Global Health Field Work**

Course Directors: Natasha Anandaraja, MD, MPH, Sigrid Hahn, MD, MPH, Nils Hennig, MD, PhD, MPH, Jonathan Ripp, MD, MPH  
Winter Term 3 credits

In this course students will learn essential skills for working in a global public health project in an underserved, potentially under-resourced setting. It prepares participants with a career interest in global health for practical fieldwork. The course is divided into three modules: Major Issues in Global Health, Global Health Skills and Global Health Research Design. The material will be taught in a mixture of case based participatory exercises and lectures. Examples of topics the students will study during this course include needs assessment, survey design, focus group design, sampling for international research, and safety and security. For most participants the course culminates in a fieldwork experience and includes opportunities for class participants to share their results and experiences upon their return.

Participants need prior approval from the course directors to attend this course.

Updated June 2010
MPH0795 Global Health Conference

Course Directors: Sigrid Hahn, MD, Nils Hennig, MD, PhD, MPH, Jonathan Ripp, MD and Natasha Anushri Anandaraja Wagner, MD

Late Winter Term or early Spring Term Saturday

This 1-day conference focuses on a timely topic in global health, such as the effect of climate change on human health, the health consequences of the war in Iraq, indigenous people’s health, and recent trends in international developmental and aid. Through lectures, panel discussions, small group sessions, readings and a writing assignment, students will have the opportunity to learn about an acute global health issue in depth. They will meet and interact with leaders in the field, and are given the opportunity to network. The students will learn focusing on positive solutions to a complex global health problem.

To receive academic credit for this conference, students are required to attend the conference and submit a writing assignment.

Previous Topics:
2010: Indigenous Health
2009: International Development and Aid: Controversies and Successes
2008: Environmental Crisis and Its Impact on Human Health
2007: Health Consequences of the War in Iraq
2006: Evidence-based Solutions to Global Health Problems
Practicum, Thesis, Independent Study & Elective

MPH0090 Practicum

Any Term 0 credits

The Practicum experience provides the student with an exciting opportunity to implement and practice lessons learned in the classroom, offering the possibility to integrate knowledge and expose the student to new and exciting prospects for future professional development. (Please refer to the STUDENT HANDBOOK.)

MPH0098 Master’s Thesis Research (for MD-MPH students only)

Dual MD-MPH Program students may register for this as one of their clinical electives in either the third or fourth year of medical school. This is a four-week elective that will enable the student to dedicate time to completing his/her Master’s Thesis.

Prior to beginning this rotation, a student must complete the MPH Program’s Elective Approval Form and register for the elective. The Thesis Advisor will be the instructor for this elective.

MPH0099 Master’s Thesis 4 credits

Students register for their Master’s Thesis on or before the Winter Term of their second year while preparing to submit their Thesis.

Please refer to the Guide to Completing the Master’s Thesis as a resource for the steps that need to be taken in fulfilling the Master’s Thesis requirement.

MPH0095 Independent Study

An Independent Study is an elective option, providing the student with an opportunity to delve more thoroughly into an area of public health of specific interest to him/her.

Please note that an Independent Study Proposal should be submitted at least six weeks prior to the anticipated start of the proposed project/course of study. This is to ensure that the goals meet the overall objectives of the Master of Public Health Program before a student commits any time and energy. Approval of a form submitted less than six weeks of the anticipated start of the project/course of study will not be guaranteed and the student is responsible for assuming any risk that this may entail. Approval, when granted, is conditional upon the student completing all of the outlined requirements. The student must submit a Postscript Report and request that the faculty sponsoring the Independent Study submit an Evaluation Form.

Three credits are the maximum number of credits that may be awarded to any Independent Study. Please note that while the total hours committed to the pursuit of the Independent Study may be sufficient for more than three credits or more than one elective, students will not receive any more than three credits for one project/course of study. Each student may complete no more than two independent study projects.

An Independent Study must be a unique experience. Material covered during an independent study project should be highly targeted and not simply a review of the regularly offered coursework. It is important to note that generally speaking independent study projects should not be attempts to take MPH courses that are offered routinely during the academic year at times that
are more convenient for the student. Students should not expect independent study projects to exempt them from core course requirements without approval by the Track Academic Advisor and the Program Director. Final credits are awarded at the end of the project by approval of the Program Director. Generally speaking 1 (one) credit represents approximately 45 hours of work.

Steps towards formalizing an Independent Study:
1. Meet with your Academic Advisor to discuss and plan the Independent Study.
2. Complete the Independent Study Proposal Form.
3. Meet with the Program Director to discuss your Independent Study.
4. Complete the project/course of study once approved.
6. Request that your Faculty Sponsor complete the Independent Study Evaluation Form and submit it to the Program Coordinator.

**MPH0096 Elective Offered in another Program or Institution**

A student may decide to enroll in a course offered by another Program here at Mount Sinai or elsewhere. If a student wishes to take a course for elective credit from Mount Sinai School of Medicine or Mount Sinai Graduate School of Biological Sciences, please consult the appropriate School’s Course Catalogue. (The Course Catalogues for the Medical School and the Graduate School of Biological Sciences are available online.)

Please submit a course description and a syllabus from the Institution offering the elective course, together with a completed Elective Approval Form, to the Program Director of the Master of Public Health Program.

**Approval must be given from the Master of Public Health Program Director prior to enrolling in a course in another Program or Institution.** The student’s request should be submitted on the Elective Approval Form and he/she must receive approval before the course begins.

An official transcript must be sent from the sponsoring institution upon the completion of the elective in order for it to appear on a student’s MPH transcript. Official transcripts must be sent directly from the institution to the Program’s Administrative Assistant.
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