

COURSE OFFERINGS:

PM 407/ANT 218 Births and Death I: Vital Events in Our Personal Lives

Instructor: A. Carter, PhD

How do human beings experience, make sense of, cope with and shape birth and death in their own lives and in the lives of those who are close to them? Historical and contemporary examples from North America, Latin America, Europe, the Middle East, Africa, and Asia

PM 410 Introduction to Data Management and Data Analysis Using SAS

Instructor: J. Guido, MS.

This course, targeted at MPH students, provides an introduction to the SAS analytic software as applied to the management, analysis, and reporting of clinical and public health data. Building on linkages to the department's biostatistics and epidemiology curriculum, this course emphasizes the integration of SAS into the research environment and the development of extensible statistical computing skills. Students gain familiarity with the SAS system through a combination of collaborative lab sessions, homework assignments, and illustrative public health examples. To enroll, students must have: (1) a working knowledge of Microsoft Windows and (2) be familiar with basic statistical concepts (as covered in [BST 463](#) or an equivalent course). Due to class size and availability of computing resources, no audits of this course are permitted. (Spring/Summer)

PM 411 Health Care for the Elderly: Financing & Organization

Instructor: H. Temkin-Greener, PhD, B. Friedman, Ph.D., MPH

The aging of the US population and the projected growth of the "oldest old" will have a major impact on the demand for and the supply of services and resources needed to care for this population. Already today, older Americans with serious and disabling chronic conditions are the largest, highest-cost, and fastest-growing consumer group. What are the needs of this growing demographic? How is the US health care system responding to those needs? What kinds of services are available, how are they managed and are they sufficient? Who provides the care? How much do those services cost? Who pays for what? What about quality of care? These and other issues important to the financing and the organization of health services for older Americans are examined in the course of this 3-credit seminar. (Every other Spring)

PM 412 Survey Research

Instructor: S. McIntosh, PhD

This course will present students with an overview of the role of survey methods and tools in the research process, with a particular focus on survey research applications in health care research and epidemiology. The course will incorporate an integrated perspective, which includes a qualitative approach to conducting appropriate and accurate survey research. Components of the course include survey item design, recruitment and follow-up strategies, pilot testing methods, IRB considerations, and psychometric issues. (Spring)

PM 413 Field Epidemiology

Instructor: E. van Wijngaarden, PhD

This course will provide an overview of the practical applications of theoretical epidemiological concepts in the study of the distribution of diseases and their causes in populations. Emphasis will be on the hands-on discussion of basic methods in epidemiologic research, including literature review; study design selection; measurement of disease; selection of relevant variables; development and administration of questionnaires; quantitative data analysis; and reporting study findings. These concepts are discussed in the context of case studies and special topics such as outbreak investigations, cancer cluster investigations, and meta-analysis. Prerequisite: Introduction to Epidemiology or permission of the instructor (Spring)

PM 414 History of Epidemiology

Instructor: C. Seplaki, PhD

The overall objective of this course is to focus the attention and raise the awareness of students on the historical perspectives of epidemiology. The course will familiarize the student with the growth of epidemiology, as a basic science, and show the inter-relationship between epidemiologic methods and intellectual, social, political and technological progress that has occurred throughout history. All of these events are crucial to a deeper understanding how diseases have influenced history and what major contributions epidemiologists have made to medicine. This course will emphasize the relationship between epidemiology and other scientific disciplines by demonstrating the influence of methodologic techniques used by epidemiologists. Additionally, the framework of this course will foster an appreciation for the role of epidemiology in society through its impact on public health from its roots to its dynamic responsibilities in present trends. (Fall every other year)

PM 415 Principles of Epidemiology

Director: D. Fernandez, MD, PhD

Introduction to Epidemiology is intended to provide an overview of concepts dealing with the study of the distribution of diseases and their causes in populations. It will define epidemiologic terms, introduce methods used to describe diseases in populations, provide an overview of ways to determine the causes of disease, and apply epidemiologic principles to the evaluation of preventive and therapeutic interventions. This will be carried out by lecture presentations supported by laboratory problems and small group discussions. The course will use L. Gordis, Epidemiology, 4th Edition. Philadelphia: W.B. Saunders Co., 2008 as a textbook, supplemented with additional readings.

PM 416 Epidemiologic Method

Instructor: D. Rich, PhD/S. Fisher, PhD

This course provides an in-depth coverage of the quantitative methodologic issues associated with population-based epidemiologic research. Issues specific to study design, conduct, and analysis are emphasized. Topics to be covered include: Issues in study design, topics in measurement, methods of data collection, confounding, effect modification, and multivariate analytic techniques. Prerequisite: PM 415, PM 410 and one semester of graduate level statistics. (Fall)

PM 417 Molecular Epidemiology

Instructor: TBA

Using the same paradigm as traditional epidemiology, this course will explore the opportunities for the use of increasingly powerful biologic markers of exposure, disease, or susceptibility to provide high resolution answers in relation to the causes of disease. The course will focus on the practice of molecular epidemiology, as an interdisciplinary science, and the use of biologic markers to advance our knowledge about health and disease among groups of people in a manner that is appropriate for inference to larger populations. (Spring) **Prerequisite: PM 415 Principles of Epidemiology**

PM 418 Cardiovascular Disease Epidemiology and Prevention

Instructor: R. Block, MD, MPH

At the completion of the course, students will be able to demonstrate their knowledge of cardiovascular disease epidemiology and prevention by listing and/or discussing the proven risk factors for coronary heart disease (CHD) and the seminal studies leading to their discovery. Other important topics students should describe are the emerging risk factors for CHD, strategies and interventions for preventing CHD, and the difference between risk markers and risk factors. Students should also demonstrate an ability to identify and verify that a risk marker is truly independent, recognize the known and suspected risk factors for stroke and the current controversies in CVD EPI and prevention and how they have arisen. **Prerequisite: PM 415 Principles of Epidemiology** or taking PM 415 concurrently (Fall)

PM 419 Recruitment and Retention of Human Subjects into Clinical Research

Instructor: A. Dozier, PhD

Recruitment and retention of research subjects typically focuses on determining eligibility, minimizing risk to research subjects and designing protocols that are not overly burdensome for the subject or participant. While these concerns are important, successful and sustainable recruitment and retention extends well beyond protocol design. This course focuses on strategies to recruit and retain subjects from groups known to be 'hard to recruit' such as individuals from disenfranchised communities (racial/ethnic minorities, homeless) and other sub-groups such as the elderly. This course combines on-line work with in class discussion and presentations from individuals responsible for clinical research recruitment and retention. Participants will critique and design recruitment strategies from published reports and local research. (Every other Fall)

PM 420: American Health Policy and Politics

Instructor: T. Brown, PhD

This course examines the formation and evolution of American health policy from a political and historical perspective. Concentrating primarily on developments from 1932 to the mid-1990s, readings and seminar discussions focus on political forces and institutions and on historical and cultural contexts. Among the topics covered are periodic campaigns for national health insurance, efforts to rationalize and regionalize health care institutions, the creation of Medicare and Medicaid and the further evolution of these programs, the rise to dominance of economists and economic analysis in the shaping of health policy, incremental and state-based vs. universal and federal initiatives, and the formation and failure of the Clinton administration's health reform agenda. One 5-page analytical paper and one 20-page research paper required. (Fall)

PM 421 US Health Care System: Financing, Delivery, Performance

Instructor: H. Temkin-Greener, PhD

In this course, we examine the organization, financing, delivery, and performance of the US health care system. The inherent tradeoffs between access to care, cost, quality, and outcomes are considered from the perspective of the main actors in the system, i.e. patients, providers (physicians, hospitals, etc), health plans, insurers and payers. Topics include: need and access to care; health care insurance and financing; Medicare and Medicaid; managed care; service delivery; long-term care; public health; quality of care, and others. The aim of the course is to help students deepen their understanding of the health care system, strengthen their ability to synthesize the literature and assess key current policy issues, and to further develop their critical thinking skills. (Fall)

PM 422 Quality of Care & Risk Adjustment

Instructor: K. Noyes, PhD

The purpose of this course is to explore the various methods and opportunities available to track and assess outcomes of clinical practices and medical technologies. The material covered will introduce the framework, analytic approaches, databases and settings available for studies addressing patient health outcomes and satisfaction, practice patterns, clinical interventions and strategies that constitute the content of health care. The course focuses on the use of patient populations and databases as laboratories for the generation of new knowledge and information. (Fall)

PM 425 Health Promotion and Preventive Medicine

Instructor: L. Kopin, PhD, MS, RN

This course will provide the learner with a solid foundation and appreciation for primordial, primary, secondary, and tertiary disease prevention strategies on both an individual (patient and provider) and population-wide basis (society as a whole). The overarching theme of the course is to impress upon the learner the importance of and need for preventive health behavioral interventions and the positive impact healthy behavior change can have on our society as a whole on an environmental, economical, and social level. (Fall)

PM 426 Social and Behavioral Medicine**Instructor: M. Mittal, PhD/A. Alio, PhD**

The course will focus on: 1) the application of behavioral, sociological, and anthropological science approaches to the etiology, prevention, treatment, and management of physical disease and illness; and 2) the identification of relationships among behavioral, sociological, anthropological, and biological factors in health. Students will acquire a familiarity with current theoretical and methodological issues in social and behavioral medicine, develop an understanding of evidence-based health promotion/disease prevention interventions in different content areas, consider cross-cultural perspectives, and develop critical thinking skills necessary to evaluate the research literature in these areas. (Fall)

PM 428 Health Services Research Seminar**Instructor: H. Temkin-Greener, PhD**

A non-credit course required of all doctoral and postdoctoral students. A variety of topics will be presented for discussion by faculty and students. (Fall and Spring)

PM 438 Practical Skills in Grant Writing**Instructor: T. Pearson, MD, PhD, MPH**

This course is intended to provide the student interested in a career in the life sciences with practical skills related to procuring external support for research. The course content includes a variety of didactic lectures on grant-related topics, discussion sessions with the opportunity to examine grants that others have written, examination of tools and resources available to assist in grant writing, and the opportunity to write a grant for support of the student's own research project and have it critiqued. At the end of the course, the enrollee should be able to write a research grant. (Spring)

PM 442 Nutritional Epidemiology**Instructor: D. Fernandez, MD, PhD, MPH**

The course is designed to give the students the tools to critically review the nutritional epidemiologic literature and to conduct epidemiologic studies of diet, nutrition, and disease. Concepts on nutritional epidemiology will be applied to nutrition and nutritional-related disorders prevalent in the United States and globally (e.g., Descriptive epidemiology of breast-feeding, new national and international growth curves, examples of the role of diet in the prevention of chronic diseases). The course will be focused mainly but not exclusively on maternal and child health issues. Prerequisites: introductory courses in epidemiology and statistics. (Spring)

PM 445 Introduction to Health Services Research and Policy**Instructor: B. Friedman, PhD/ James Dolan, MD**

This course will introduce students to the field of health services research and policy. The primary objective is making students aware that HSR&P is a multidisciplinary field, both basic and applied, that examines the use, costs, quality, accessibility, delivery, organization, financing and outcomes of health care services. The course will examine the historical development of the field, introduce the basic concepts and methods of social science research as they apply to HSR&P, provide an overview of the field's different major theoretical foundations, and introduce students to critical reading and evaluation of the HSR&P literature. **Required of all first-year HSR&P doctoral students. Open to MPH and other graduate level students with the permission of the instructor. (Fall)**

PM 448 Health Policy Analysis**Instructor: P. Veazie, PhD**

This course provides an introduction to policy analysis in the context of public health and health care. The course focuses on developing the logic and argumentative skills necessary to produce compelling analyses of existing and proposed policies. The main quantitative tools used in policy analysis will be identified. Upon completion of this course, students will be able to:

- Produce a coherent policy analysis based on existing information.
- Identify the main quantitative tools used for modeling and predicting policy outcomes.
- Identify the main quantitative tools used for policy research and evaluation. (Spring)

PM450 Governance and Management of Community Health Services Organizations

Instructor: T. Toole, MBA

This course focuses on the governance and executive management of nonprofit health and human service organizations with emphasis on those that provide community-based services. Each student selects one such organization for intensive study of its mission, stakeholders, strategic issues, and community impact. The student will submit a report on that organization and an analysis of one of the community elements, e.g., government, donors, regulation, that influence nonprofits. (Spring)

PM 451 Infectious Disease Epidemiology

Instructor: V. Stevens, Ph.D.

This course examines the epidemiology of infectious diseases within an ecological and evolutionary framework. Anthropocentrically, we frequently refer to a person as infected; from the point of view of an infectious agent, humans simply represent an ecological niche. Infectious agents will be studied in terms of their own life cycle, immunology, ecology, evolution, molecular biology and similarities of microbial pathogenicity. Part I of this course will afford students the opportunity to acquire and use the methodological skills that will enhance their investigation of the transmission of specific infectious agents during Part II of the course. Part III will concentrate on examining the global burden of infectious diseases. Students will be encouraged to recognize that understanding the epidemiology of infectious diseases provides a means of preventing infection through public health measures, rather than through vaccination which has proven largely to be unsuccessful (e.g. HIV) or to be of limited effect (Hepatitis B and C) over the last decade.

PM 452 Community Health Improvement Practicum

Instructor: S. McIntosh, PhD

The goal of this practicum is to offer intensive experiential training to develop skills in community health improvement by partnering with community agencies involved in health promotion and disease prevention. The learning objectives addressed include: community health assessment, risk behavior change, assurance of personal health services, advocacy and policy change, environmental interventions, community organization and partnership-building, and program evaluation. The course involves didactic instruction as well as program development and implementation throughout the semester. Each student chooses a project that focuses on a specific target population, and then designs it incorporating public health knowledge, skills, and attitudes learned during the didactic component. (Spring)

PM 456 Health Economics II: Industrial Organization of Health Care Markets

Instructor: BK. Yoo, MD., PhD

This course will develop key theoretical concepts of industrial organization and apply the concepts to health care markets. Topics covered will include: theory of the firm, typology of markets, strategic behavior, integration, the role of information, and regulation (Alternate Spring Semesters)

PM 458 Qualitative Health Care Research

Instructor: N. Chin, PhD, MPH

A community's health is not just determined by individual health behaviors, but also by cultural beliefs and forms of social organization. Traditional quantitative methodologies, which have been so powerful in understanding biological phenomena, have limited explanatory power in analyzing socio-cultural phenomena. Qualitative methods, long used in the social sciences, allow for the collection, analysis, and interpretation of social and cultural data that quantitative methods cannot adequately reach. In addition, qualitative methods can function as an essential adjunct to quantitative methods by hypothesis generation or identifying lay terminology for accurate survey developed. This course will cover standard qualitative methodologies through a discussion of relevant literature, class exercises, and a class project. (Spring)

PM 460 Master's Essay

This research project is designed, carried out, analyzed, and written up by the student under the supervision of, and in consultation with, an essay advisor and an advisory committee.

PM 461 Program Evaluation for Public Health

Instructor: A. Dozier, PhD

Provide MPH students with practical skills to organize and conduct credible and useful evaluations of health or human service projects or programs. Focusing on methods, this course will help students design and critique approaches to answer two key questions central to program evaluation: Is this program working as intended? Why is this the case? Students will learn the theories behind program evaluation and how to prevent or overcome common evaluation planning and implementation challenges and pitfalls. Students will also develop additional skills in designing programs, writing objectives, working with stakeholders, establishing appropriate measures/data gathering tools, designing implementation specifications, analyzing results and presenting findings. (Fall)

PM 462 Laboratory Methods for Translational Research

Instructor: M. Plessinger, PhD

Translational research will usually involve a number of different laboratory measures, some routine and some cutting-edge, so that a general familiarity with laboratory issues is important for anyone involved in clinical and translational research. This course will explain the basis of commonly-used laboratory technologies and some general principles of setting up and evaluating lab tests. While it is not possible to become expert at any particular technology through a didactic course, we expect that students who complete this course will have more productive interactions with lab personnel because of their increased knowledge of laboratory science. (Fall)

PM 463 Introduction to Mathematical Statistics, Part I

Instructor: P. Veazie, PhD

The goal of this course is to familiarize students with basic elements of probability and mathematical statistics. At the completion of this course the student will be familiar with set theory and notation, understand probability theory, be familiar with special distributions, both discrete and continuous understand how to approach functions of random variables, and understand limit theorems in statistics. (Fall)

PM 464 Introduction to Regression Analysis, Part II

Instructor: N. Zhang, PhD

The course consists of two parts. The first part reviews single-equation ordinary least squares (OLS) regression models, including the two-variable regression model, the classical normal linear regression model, and multiple regression analysis. Estimation and inference are important foci. In the second part of the course we review what happens when assumptions of the classical model are relaxed. Tests for multicollinearity, heteroscedasticity, and autocorrelation are included, and approaches for addressing violations of the assumptions are covered. Prerequisites: PM 463 or permission of instructor. (Spring)

PM 465 Advanced Multivariate Analysis, Part III

Instructor: P. Veazie, PhD

The first part of this course introduces general estimation frameworks including least squares (specifically, least squares as applied to multivariate models, and nonlinear least squares), maximum likelihood, generalized method of moments, and some corresponding variants (e.g., quasi-likelihood, Monte Carlo methods, and instrumental variables). The second part of the course focuses on the application of the preceding estimation methods to the development and analysis of qualitative and limited dependent variable models (e.g., logit, probit, multinomial/conditional/nested logit, multinomial probit, mixed logit and probit, and censored and truncated data), duration models (e.g. Kaplan-Meier product limit estimator, Cox's proportional hazard model, and full parametric specifications), and multivariate models (e.g., multivariate regression, sample selection models, and simultaneous equation models). Prerequisites: PM 464 or instructor permission. (Fall)

PM 469 Multivariate Models for Epidemiology

Instructor: C. Seplaki, PhD

The purpose of this course is to provide the student with a strong understanding of and experience in the more advanced quantitative methods for the analysis of epidemiologic studies. The approach will be applied; complete formulae will be included, however, mathematical proofs will be omitted. A more detailed presentation of the analysis issues of confounding and interaction will be presented and a complete presentation of most multivariate techniques. Prerequisite: Advanced Epidemiology, knowledge of SAS or other statistical software, or permission of the instructor. (Spring)

PM 470 Environmental and Occupational Epidemiology**Instructors: E. Van Wijngaarden, PhD/ D. Rich, PhD**

The objective of the course is to provide an overview of environmental issues related to public health. Physical, chemical, mechanical, biological, social and psychological environmental issues will be addressed through lectures, discussions, class exercises and site visits. Selected environmental issues will be addressed from a multi-disciplinary perspective including: public health, medicine, history, economics, and law. Current public health programs and policies will be discussed. (Spring)

PM 472 Measurement & Evaluation of Research Instruments**Instructor: R. Rogge, PhD**

The purpose of this course is to provide the student with a comprehensive background in the development and testing of self-report instruments for epidemiologic research purposes. A review of the principles of survey development will begin the course, however, it will rapidly move to a more hands-on approach as students will learn how to run and interpret classical test theory analyses, factor analyses, responsiveness to change analyses and Item Response Theory (IRT) analyses of item pool data. The students will learn how to use and integrate these statistical approaches to develop self-report instruments with high levels of validity and low levels of measurement error. (Spring)

PM 476 RCTRC Clinical Research Seminar Series**Instructor: T. Pearson, M.D., Ph. D., MPH**

A weekly seminar series for Rochester Clinical Research Curriculum participants. This series will include presentations from UR training mentors, guest lecturers, experts in technological innovations in clinical research, as well as trainee presentations. (Fall and Spring)

PM 479/HIS 208 Health, Medicine and Social Reform**Instructor: T. Brown, PhD**

Pursuit of the theme of public health and medical reform by leading writers committed, from different positions along the political spectrum, to the social and economic reorganization of modern society. (Alternate Spring Semesters)

PM 480/HIS 209. Changing Concepts of Disease**Instructor: T. Brown, PhD**

Historical account of the way disease has been conceptually understood in the Western tradition. Emphasizes the scientific, epidemiological, philosophical, social, cultural, and professional forces that have shaped the development of ideas. (Alternate Spring Semesters)

PM 483 Advanced Health Economics I**Instructor: BK. Yoo, MD., Ph.D**

The study of how three major parties in the health care system, insurers, hospitals and physicians, interact and how the nature of these interactions affects the system's overall economic performance. Prerequisites: Knowledge of the US health care system and microeconomic theory (Alternate Spring Semesters)

PM 484 Cost Effectiveness Research**Instructor: K. Noyes, PhD**

Cost-effectiveness research is increasingly used to evaluate alternative choices in clinical practice and to enlighten and inform health policy determinations. In this course, students are introduced to the methods and objectives of cost-effectiveness research, as well as to important study design issues that distinguish these investigations from other clinical research studies. They will be introduced to the concepts of economic costs and various strategies of incorporating costs into such analyses. They will learn various research methods to conduct such studies including decision modeling, clinical-economic trials, and program evaluations. Students will also participate in a lab to learn decision analysis software such that they can perform analyses themselves as a class project. Prerequisite: at least one semester of graduate level statistics. (Spring)

PM 488 Experimental Therapeutics**Instructor: K. Kieburtz, MD**

This course is designed for individuals interested in the process for identifying novel interventions for disease, and for the eventual introduction into humans. Topic areas covered will include: preclinical laboratory techniques useful in assessing an intervention's ability to modulate a disease mechanism and potentially influence human disease; the preclinical safety before initiating human experimentation as appropriate techniques for extrapolating dosages from animals to humans; human experimentation (Phase I-Phase IV clinical trials) and the level of animal and human evidence necessary to progress from one phase of experimentation to the next; and ethical underpinnings of human experimentation. environmental health. (Spring)

PM 494 Research Program Administration (CRN: 75986) 0 Credit Hours**Instructors: S. Griffin-Roth, MS**

This on-line course will provide practical skills regarding the post award management of the financial, human resources, facilities, and regulatory aspects of a federally funded research project. Course materials are on-line. Exams will be distributed by email.