Fall classes begin on Monday, August 31 and end Friday December 11, Fall Break Oct. 5-6
For more information about the courses listed below, please contact the instructor or Pattie Kolomic, Graduate Programs Administrator, 275-7882.

PM 400 Data Science Practicum (CRN: 83026) 1 Credit
Instructor: Dye, Timothy, Ph.D.
Practicum provides a practical experience for graduate students to participate in a lab, research group, or center at the University of Rochester or one of its partners on a biomedical research topic involving data science. The experience will integrate practical, field-based methods and will include participants in a team science environment. Students can expect to apply their classroom learning during the two-semester (Fall and Spring semesters) practicum experience. Students work in teams on pre-approve projects and meet weekly with their mentor to review progress and plans. Students will present the results of their work at the end of the Spring semester.

PM 401 Quantitative Methods in Public Health Research (CRN: 78415) 3 Credits
Instructor: Abar, Beau Ph.D.
The purpose of this course is to familiarize students with many of the standard statistical techniques utilized in the health sciences. By the end of the course, students should be able to understand, interpret, and communicate about statistical topics including but not limited to: descriptive statistics; displaying data in tables and figures; types of data and distributions; sampling distributions and hypothesis testing; comparing means; correlation and regression; and contingency tables and sensitivity/specificity. T/R, 9:00 – 10:15, SRB 1.416

PM 410 Introduction to Data Management and Analysis (CRN: 67200) 3 credits
Instructor: Thevenet-Morrison, Kelly, MS
This course provides an introduction to the SAS analytic software for Windows and a basic understanding of data management using MS Access, MS Excel and SAS. Through a mixture of lectures and applied lab sessions, students gain experience using MS Access, MS Excel for the management and analysis of public health data. Building on linkages to the department's biostatistics and epidemiology curriculum, this course emphasizes the integration of data management and analysis into the research environment and the development of statistical computing skills. Wednesday, 9:00-12:00, Hylan 303, RC
PM 412 Survey Research (CRN: 81942) 3 Credit Hours  
Instructor: McIntosh Scott, Ph.D., Ossip, Deborah, Ph.D.  
This course presents the necessary elements of survey instrument development and survey research methods, with a focus on practical applications in health care research, epidemiology and social & behavioral science. The integrated perspective includes a qualitative approach to survey development and interpretation and practical methods for conducting valid and reliable survey research. Students participate in all stages of the survey research process through application of homework assignments, survey development and research project design. Grades will be determined through quizzes, participation, and a group survey project. Prerequisite: PM 415 Principles of Epidemiology or permission of the instructor. Monday, 2:00–5:00, SRB 1.416

PM 413 Field Epidemiology (CRN: 81915) 3 Credit Hours  
Instructor: van Wijngaarden, Edwin, Ph.D.  
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: PM 415 Principles of Epidemiology or permission of the instructor. Tues/Thurs 9:30-11:00, SRB 1.406

PM415 Principles of Epidemiology (CRN: 67211) 3 credit hours  
Instructor: Jusko, Todd Ph.D., Fernandez, Diana, MD., Ph.D.  
PM 415 is intended to provide an overview of concepts dealing with the study of the distribution and determinants of health conditions in populations. We will define epidemiologic terms, introduce methods to describe health conditions 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 online modules, lecture presentations, and small group discussions. Prerequisites: None for graduate students or PH103 for undergraduate students, Tues. 10:30- 1:00 (lab 12-1) /Thur. 10:30-12:00, SRB 1.416

PM 418 Cardiovascular Disease Epi. & Prevention (CRN: 67233, 418W: 67244) 3 credits  
Instructor: Block, Robert, M.D., 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 cardiovascular disease (CVD) and the seminal studies leading to their discovery. Other important topics students should be able to describe are the emerging risk factors for CVD, strategies and interventions for preventing CVD, and the difference between risk markers and risk factors. Students should also be able to 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 epidemiology and prevention and how they have arisen. Prerequisites: PH103 or PM415, Monday 10:30-12:00, Friday, 2:00–3:30, SRB 1.406/1.412
PM 419 Recruitment and Retention of Human Subj. in Clinical Res. (CRN: 82993) 3 credits
Instructor: Dozier, Ann, PhD., Geba, Daniela, MD.
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 class time and work with in-class discussion. Participants will critique and design recruitment strategies from published reports and local research, interview individuals responsible for clinical research recruitment and retention, develop feasibility assessments and draft a recruitment plan. **Mondays: 3:30 - 6:00, SRB 1.402**

PM 420 Amer. Health Policy & Politics (CRN: 67257) 3 credits
Instructor: Brown, Theodore, Ph.D.
This course examines the formation and evolution of American health policy from a political and historical perspective. Concentrating on developments from the early twentieth century to the present, the focus of readings and discussions will be political forces and institutions and 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, the formation and failure of the Clinton administration’s health reform agenda, and national health reform efforts during the Obama administration. The course is in seminar format and will expect active, well-prepared student participation. The other major requirements are two 5-page take-home essay-exams and a 10-page research paper. Course grades will be determined as follows: take-home essays – 20% each; term paper – 45%; contribution to seminar discussion – 15%. **Tuesday, 2:00-4:40, SRB K-307**

PM 421 US Health Care System: Financing, Delivery, Performance (CRN: 67266) 3 credits
Instructor: Intrator, Orna, Ph.D.
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 for 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. **Wednesday, 3:00-6:00, SRB 1.416**

PM 428 Health Services Research Seminar (CRN: 67298) 1 credit hours
Instructor: Veazie, Peter, Ph.D.
A one-credit course required of all Health Services Research doctoral students. A variety of topics will be presented for discussion by faculty and students. **Fri., 1:30-3:00, SRB 1.416**
PM 430 Psychology in Health Services Research (CRN: 81921) 3 Credits
Instructor: Veazie, Peter, Ph.D.
As health services research moves from descriptive to explanatory work for informing policies and interventions, the use of theory becomes essential. Psychology provides theories for explaining individual and social behavior that can underlie many phenomena of interest. For example, psychological theories have been used to understand patient and physician communication and decision making, medical errors, healthcare disparities, and patient engagement of preventive care or persistence with treatment regimens. This course has two objectives: (1) to introduce students to basic and health-related psychological and social-psychological theories germane to health services research, and (2) to introduce the process of creating theory-based explanations. **Monday, 2:00 – 5:00, SRB 1.406**

PM 438 Grantsmanship (CRN: 84986) 3 Credits
Instructor: Dolan, James, Ph.D., ONLINE ONLY
The Miriam Webster dictionary defines the term grantsmanship as "the art of obtaining grants". This definition accurately identifies the process of successfully obtaining grants as an art form requiring skill and judgment to be successful. The purpose of this course is to help learners develop this skill-set. Major topics will include a review of funding opportunities and how to find them, how to prioritize potential grant opportunities, how to develop a research idea and project proposal into a grant application, and how to approach completing the actual grant application process. This will be a moderated online course. All course materials and interactions with instructors and fellow students will be conducted online. Instructors will be available on a regular basis to answer questions and review submitted work.

PM 443 Foundations of Maternal & Child Health (CRN: 81950) 3 credit hours
Instructor: Alio, Amina, Ph.D.
This course is designed to provide students with an overview of major health issues through the life course of women and children and public health responses to these issues in the U.S. and in low-income countries. The course introduces students to the field of maternal and child health from its historical development, current health priority issues, barriers to care, and public health interventions. **T, 1:00 – 3:30, 1.406**

PM 445 Introduction to Health Services Research and Policy (CRN: 67302) 3 credit hours
Instructor: Dolan, James, MD
This course will provide a hands-on introduction to field of health services and policy research. We will review the nature and scope of health services and policy research, learn about organizational and systems theories, compare different conceptual frameworks for guiding health services and policy research, and discuss research studies addressing current topics of interest including: health system planning and policy, effectiveness and quality of care, efficiency of care, equity of care/disparities research. Extensive use will be made of a hypothetical new country with a health system similar to that of the United States that will serve as our research “lab”. Upon completion of this course, students will: 1) Be familiar with the multi-disciplinary and multi-faceted nature of health services and policy research; 2) Have a basic understanding of systems research and organizational theories; and 3) Have an understanding of the HSR research methods and their respective advantages and disadvantages. **Mon/Thurs 4:00 – 5:30, SRB 1.404**
PM 450 MPH Practicum (CRN: 82987) 3 Credit Hours
Instructor: Alio, Amina, Ph.D., Adams, Jacob, MD
The intent of this practicum is to engage students in activities aligned with their career goals, as well as activities that demonstrate application of public health science concepts and critical thinking relevant to the student’s area of interest within community organizational settings. Students will partner with a community agency to conduct evidence-based activities that meet a programmatic goal of the partnering agency addressing population-health issues. These activities will further develop the student’s skill set in program design, implementation and/or evaluation. Upon completion of the program, students will be able to provide evidence of application of these skills to potential employers. Students will work independently with a faculty supervisor to create and outline an appropriate plan for an onsite practicum experience.

PM 456 Health Economics I: Introduction to Health Economics (CRN: 67326), 3 credits
Instructor: Li, Y, Ph.D.
This is an introductory course that will cover the basic principles of economics and their variations used to understand the production of health, the supply and demand for medical care and health insurance, and market competition in medical care, including the markets for health insurance, medical services, hospital services, pharmaceuticals, medical education, physicians, and nurses. The course will use graphs and calculus-based mathematical models to communicate main concepts and principles. Prerequisite: only HSR doctoral students or permission of instructor.
Wed. 10:00-12:30, SRB 1.412

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 463 Introduction to Mathematical Statistics, Part I (CRN: 67541) 3 credit hours
Instructor: Saltzman, Peter, Ph.D.
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. Tuesday/Thursday, 11:15 -12:45, SRB 3.432

PM 488 Experimental Therapeutics (CRN: 81939) 3 credits
Instructor: Augustine, Erika, M.D., MS.
This course is designed for individuals interested in the process for identifying novel interventions for diseases, and for their eventual introduction into humans. Topic areas covered will include: preclinical assessment of an intervention's ability to modulate disease, the preclinical safety data needed before initiating human experimentation, the appropriate techniques for extrapolating dosages from animals to humans; types of human experimentation (Phase 1-Phase 3 clinical trials), the level of animal and human evidence necessary to progress from one phase of experimentation to the next, and the ethical underpinnings of human experimentation. (Including CTSI Skill-Building Workshop Series Seminar: Good Advice: Case Studies in Clinical Research, Regulation, and the Law). Wednesday, 12:00 - 3:00, SRB 1.406
PM 489 Injury Epidemiology & Emergency Care Research Methods (CRN: 78407)  
(PM 489W; CRN: 83017) 3 Credits  
Instructor: Jones, Courtney, Ph.D., MPH  
The course is designed to provide the student with an introduction to the fields of injury  
edemiology and emergency care research. This course will provide an overview of the  
edemiology of traumatic injuries and how epidemiologic methods are applied to study injury,  
including issues of exposure and outcome measurement, study design and analysis. Students will  
also be introduced to the unique challenges and opportunities when conducting research in the  
emergency care setting (e.g., emergency departments and ambulance-based pre hospital care)  
including approaches to subject recruitment, consent, and risk adjustment. Prerequisites: PH103  
or PM415 or permission of instructor. Wed./Fri., 12:30 – 1:45, SRB 1.412

PM 494 Advanced Methods in Health Services Research (CRN: 67570) 3 credits  
Instructors: Hill, Elaine, Ph.D., Intrator, Orna, Ph.D.  
The purpose of this course is to provide students with a strong understanding of, and experience in,  
advanced quantitative methods for health services research. Topics covered will be longitudinal  
models (e.g. fixed and random effects, conditional, marginal and structural models), causal  
inference (e.g. difference-in-differences, propensity score methods, instrumental variables,  
regression discontinuity, and quantile/nonlinear regression), and practical considerations for  
handling data (e.g. missing data, data structures, effective programming). Time permitting, we will  
also cover spatial methods and some topics in “Big Data”. The course will be taught by lecture and  
hands-on sessions. The emphasis of the course will be on applications that will be useful for  
students to implement in their thesis work. TF, 9:00-10:30, SRB, 1.404

PM 494 Intro to Medical Informatics (CRN: 67588) 3 credits  
Instructor: Tatro Adam, MS, Chang, Jack, MS  
This course serves as an introduction to biomedical informatics, as applied in research and in  
clinical practice. This course will provide a study of the nature of biomedical information and its  
capture, collection, storage, and use. Of particular interest in this course is the use of the electronic  
medical record (EMR) its use for research and its impact on health care delivery, the Internet and  
mobile computing, custom Health Care Information Systems, their development, selection and  
implementation, and the importance of the computing or informatics specialists in medicine and  
research and the various roles they can play, privacy, confidentiality and information security  
including health care regulatory and accreditation issues and the Health Insurance Portability and  
Accountability Act (HIPAA). The course will also introduce students to concepts of  
Biorepositories, Big Data, Data Science, and Health Care Analytics, particularly from the  
perspective of the informaticist responsible for managing data sources in these domains. Where  
relevant, the course will introduce students to additional information technologies (e.g., cloud  
storage, parallel computing, data visualization) useful in informatics practice.

PM 595: PhD Health Services Research  
PM 595: PhD EPI Research  
PM 895: Continuation of Master’s Enrollment (CRN: 67793)  
PM 985: Leave of Absence (CRN: 67815)
RELEVANT COURSES IN OTHER DEPTS

**BST 463 Introduction to Biostatistics (CRN: 18643)** 3 credit hours
Instructor: Wu, Tongtong, Ph.D.
Introduction to statistical techniques with emphasis on applications in the health sciences. Summarizing and displaying data; introduction to probability; Bayes’ theorem and its application in diagnostic testing; binomial, Poisson, and normal distributions; sampling distributions; estimation, confidence intervals, and hypothesis testing involving means and proportions; simple correlation and regression; contingency tables; use of statistical software Basic statistical and data-analysis methods in medical research. **Monday/Wednesday, 10:00-11:15, K-307 (3-6408)**

**IND 501 Ethics and Professional Integrity in Research (CRN: 48994)** 1 credit hour
Instructor: Dirksen, Robert, Ph.D. **September 8-October 27, 2015**
This course covers a broad range of topics and attempts to address issues that many researchers are likely to face in their careers. A very practical approach is adopted in order to avoid deep philosophical debates, which, although of great interest, are unlikely to be helpful. A description of the University's policies and procedures in dealing with misconduct in research is included. **Attendance is mandatory. Tuesday’s, 3:30-5:30, Class of 62 Auditorium, G-9425 Attendance is mandatory at all Sessions**

June 30, 2015