

COURSE DESCRIPTIONS

Courses offered by College of Public Health departments are listed as both CPH and Graduate (BIOS, EPI, ENV, HPRO, HSRA) offerings. MPH and Cert.PH students should register for the CPH listing. M.S. and PhD students should register for the graduate listing.

Course Descriptions

College of Public Health (CPH)

CPH 500 FOUNDATIONS OF PUBLIC HEALTH 3 Credit Hours

This is an introductory survey course, which will ensure that all public health students, within their first full year of study, are exposed to the fundamental concepts and theories that provide the basis for the body of knowledge in the field of public health. This course will prepare students to work in public health with a sound theoretical, conceptual, and historical basis for their work.

Cross List: HPRO 830.

Typically Offered: FALL/SP/SU

CPH 501 HEALTH BEHAVIOR 3 Credit Hours

The purpose of this course is to study the theoretical foundations of health behavior. Candidates will develop an understanding of the determinants of health behavior, the models, and theories that provide a framework for predicting health behavior, and the strategies employed to bring about behavioral changes for health and disease prevention in individuals and groups.

Cross List: HPRO 860.

Typically Offered: FALL/SP/SU

CPH 502 HEALTH SERVICES ADMINISTRATION 3 Credit Hours

This is a survey course designed to be an introduction to the management of health services organizations and systems in the United States. Specifically, this course will introduce students to the types of health services organizations and health systems in the United States, the context surrounding the administration of these organizations and delivery of health care services, and the skills needed to manage a health services organization within this setting.

Cross List: HSRA 873.

Typically Offered: FALL/SPR

CPH 503 PUBLIC HEALTH ENVIRONMENT & SOCIETY 3 Credit Hours

An introduction to environmental factors (including biological, physical and chemical factors) that affect the health of a community. The main focus will be the effects of exposures that have been associated with human health and environmental problems in the Midwest, specifically water and air pollutants related to animal feeding operations, arsenic in ground water, pesticides, herbicides, lead and radiation. The effects of global warming, ergonomic problems in the meat packing industry and occupational and environmental problems in health care will also be discussed.

Cross List: ENV 892.

Typically Offered: FALL

CPH 504 EPIDEMIOLOGY IN PUBLIC HEALTH 3 Credit Hours

The objective of the course is to understand the application of survey and research methodology in epidemiology, especially in the community setting. Theoretical aspects will be taught as an integral part of understanding the techniques of study design and community survey. Concepts to be covered include measure of disease occurrence, measures of disease risk, study design, assessment of alternative explanations for data-based findings, and methods of testing or limiting alternatives. Students will be expected to address an epidemiological question of interest to them, first developing the hypothesis and conducting a literature search, then developing a study design and writing, in several stages, a brief proposal for the study.

Cross List: EPI 820.

Typically Offered: FALL/SPR

CPH 505 APPLIED RESEARCH IN PUBLIC HEALTH 3 Credit Hours

The purpose of this course is to provide an introduction to research methods in public health. Students will learn about the steps of scientific research. The course will cover topics including formulation of a research problem; sampling and research design; dissemination of research findings; and grant proposals. These topics will be discussed in detail in the context of critically reviewing several peer-reviewed scientific articles. Research ethics is large component of the course. Students will complete CITI Trainings as well as learn about institutional Review Board (IRB) processes and applications.

Cross List: HPRO 805.

Typically Offered: FALL/SPR

CPH 506 BIOSTATISTICS 3 Credit Hours

This course is designed to prepare the graduate student to understand and apply biostatistical methods needed in the design and analysis of biomedical and public health investigations. The major topics to be covered include types of data, descriptive statistics and plots, theoretical distributions, probability, estimation, hypothesis testing, and one-way analysis of variance. A brief introduction to correlation and univariate linear regression will also be given. The course is intended for graduate students and health professionals interested in the design and analysis of biomedical or public health studies; not intended for Ph.D. students enrolled in the Biostatistics Graduate Program.

Cross List: BIOS 806.

Typically Offered: FALL/SP/SU

CPH 507 GLOBAL APPLICATIONS IN PUBLIC HEALTH 3 Credit Hours

The course provides a survey of the field of global health, including health conditions, resources, and programs. The course deals with the application of the principles of public health to health problems of countries around the world, and global forces that affect health. Topics covered include global health policy, including tobacco control policies, comparative health systems, climate change, and environmental health; the global impact of infectious and chronic diseases; infant mortality; womens health; cultural issues in global health; global occupational health issues; and human rights and ethics in global health. The course is intended for graduate students in public health, health professionals and health professions students who seek an understanding of global public health issues.

Prerequisite: Instructor permission is required.

Cross List: HSRA 820.

Typically Offered: FALL

CPH 511 AGRICULTURAL HEALTH AND SAFETY 3 Credit Hours

Agricultural Health and Safety

Cross List: ENV 811.

Typically Offered: SUMMER

CPH 514 PLANNING AND EVALUATION 3 Credit Hours

This course is designed to prepare the graduate student, professional student, or fellow to apply multi-leveled evidence-based policy and program approaches to improve public health. The course will guide students through planning and evaluating the impact of public health strategies based on the reach, effectiveness, scalability, implementation quality, and sustainability of these approaches in complicated and complex systems. Crosslisted: HPRO 814

Typically Offered: FALL/SPR

CPH 517 DESIGN OF MEDICAL HEALTH STUDIES 3 Credit Hours

This course is designed to prepare the graduate student to understand and apply principles and methods in the design of biomedical and public health studies, with a particular emphasis on randomized, controlled clinical trials. The major design topics to be covered include sample selection, selecting a comparison group, eliminating bias, need for and processes of randomization, reducing variability, choosing endpoints, intent-to-treat analyses, sample size justification, adherence issues, longitudinal follow-up, interim monitoring, research ethics, and non-inferiority and equivalence hypotheses. Data collection and measurement issues also will be discussed. Communication of design approaches and interpretation of subsequent analysis results also will be stressed. Concepts will be explored through critical review of the biomedical and public health literature, class exercises, and a research proposal. The course is intended for graduate students and health professionals interested in the design of biomedical or public health studies.

Prerequisite: BIOS 806/CPH506, or an equivalent course.

Cross List: BIOS 835.

Typically Offered: SPRING

CPH 528 APPLIED PRACTICE EXPERIENCE 3 Credit Hours

The purpose of this course is to provide all students with an applied, scholarly, and mutually beneficial experience in a public health practice setting. This experience augments the academic course work, meets community needs, and provides students with an opportunity to integrate and apply at least five foundational public health competencies. Students are expected to demonstrate mastery of public health principles, values and practice. All partner organizations must be approved by the Office of Public Health Practice. Applied practice experiences may involve governmental, non-governmental, non-profit, industrial and for-profit settings or appropriate university-affiliated settings. To be appropriate for applied practice experience activities, university-affiliated settings must be primarily focused on community engagement, typically with external partners. University health promotion or wellness centers may also be appropriate.

Prerequisite: Completion of 9 credit hours of course work that must include CPH 500 Foundations in Public Health. Completion of the APEX orientation, the Professionalism Training Module and all required paperwork.

Typically Offered: FALL/SP/SU

CPH 529 CAPSTONE EXPERIENCE 3 Credit Hours

A community-based experience, designed to provide students with firsthand, scholarly, supervised experience in a practice setting.

This experience augments the academic course work, meets actual community needs, and provides students with an opportunity to integrate and apply/test knowledge, principles and skills acquired through classroom instruction. Students will demonstrate mastery of public health principles, values and practice.

Prerequisite: CPH 505 Applied Research in Public Health, CPH 517 Design of Medical Health Studies. Students must complete all core and concentration area courses, be within 12 hours of graduation (including the 6 hours of service learning/capstone experience), and be in good academic standing to start the Service-Learning/Capstone Experience (SL/CE). Registers for: CPH 528 Service learning for MPH Students (3 credit hours) CPH 529 MPH Capstone Experience (3 credit hours)

Typically Offered: FALL/SP/SU

CPH 533 HEALTH CARE ETHICS 3 Credit Hours

This course uses selected topics to outline the history, theory, and methods of health care ethics. It is intended as a core course for graduate students in ethics and related fields—for bioethics teachers, administrators, policy makers, clinicians, and public health professionals. Cross List: HPRO 825.

CPH 534 INTERVENTIONS IN HEALTH PROMOTION 3 Credit Hours

This course will provide health promotion students with an opportunity to investigate, contrast, develop, implement, and evaluate a variety of intervention activities, to be applied in different settings. Theories regarding methods to enhance behavior change and teaching strategies to meet the health needs of a diverse population will be explored.

Cross List: HPRO 827.

Typically Offered: FALL

CPH 535 PHYSICAL ACTIVITY EPIDEMIOLOGY 3 Credit Hours

This course is designed to prepare the graduate student to understand and apply physical activity epidemiologic methods to biomedical and public health investigations. The major topics to be covered include core concepts in physical activity epidemiologic methods; research design; data reporting and interpretation; the role of physical activity on health outcomes; and promoting physical activity and healthy lifestyles through intervention research. Concepts will be explored using the biomedical and public health literature, class exercises, exams, and projects. The course is intended for graduate students and health professionals who will be involved in biomedical research or public health studies that integrate physical activity as an outcome, exposure, or confounding variable into their research design.

Prerequisite: Instructor permission and BIOS 806/CPH 506 or BIOS 816/CPH 516 and EPI 820/CPH504 within the past 5 years resulting in a grade of B- or better.

Cross List: HPRO 831.

CPH 538 PUBLIC HEALTH PROGRAM EVALUATION 3 Credit Hours

This course is designed to provide an overview of methods for evaluating public health programs. Students will learn methods for choosing appropriate evaluation designs and procedures for data collection, choosing and developing survey items, and interpreting and describing evaluation results.

Cross List: HPRO 875.

Typically Offered: FALL

CPH 539 PUBLIC HEALTH: LEADERSHIP AND ADVOCACY 3 Credit Hours

This course incorporates public health leadership theory and practices that are grounded in biomedical and social science and sanctioned by public law. Also included is the politics of communities and organizations. Advocacy is emphasized as a key tool to secure funding and to help assure that local, state, and federal policy-makers will adopt, implement, and maintain important public health regulations, policies and programs.

Cross List: HPRO 895.

Typically Offered: SPRING

CPH 540 INTRODUCTION TO COMMUNITY-BASED PARTICIPATORY RESEARCH 3 Credit Hours

This course is designed to prepare the student to utilize Community-Based Participatory Research (CBPR) principles in research, evaluation, and practice. A philosophical and practical approach will guide the examination of CBPR and its use. The course assumes students will come already grounded in multiple research methods, both qualitative and quantitative.

Prerequisite: HPRO 805/HED 8050/CPH 505 (or equivalent course) or permission of the instructor, permission will require a demonstrable knowledge of research methods.

Cross List: HPRO 807.

CPH 541 INTRODUCTION TO SOCIAL MARKETING AND HEALTH COMMUNICATION 3 Credit Hours

This course provides an introduction to the basic concepts of social marketing and health communication principles including the application to health behaviors and public health issues.

Cross List: HPRO 841.

Typically Offered: SUM/FALL

CPH 542 APPLIED SOCIAL MARKETING 3 Credit Hours

This course will explore the application of social marketing at the population, community, business and government levels. Students will examine the concepts of social marketing from perspectives of collaboration and co-creation, value and service driven design, and an ethical framework of dignity and honor.

Prerequisite: CPH 541.

Cross List: HPRO 842.

Typically Offered: FALL/SPR

CPH 543 HEALTH LITERACY AND COMMUNICATION FOR HEALTH PROFESSIONALS 3 Credit Hours

This course is an in-depth study of health literacy and communication. Students will build competencies in health communication (from theory and practice) to promote individual and community health and well-being.

Cross List: HPRO 843.

Typically Offered: SPRING

CPH 545 INTRODUCTION TO HEALTH DISPARITIES AND HEALTH EQUITY 3 Credit Hours

The course provides a critical understanding of health disparities in the U.S. and examines the underlying social, cultural, biological, behavioral, economic, and political factors that contribute to such disparities in society.

Prerequisite: Instructor permission required.

Cross List: HPRO 809.

Typically Offered: FALL

CPH 546 INTRODUCTION TO MATERNAL AND CHILD HEALTH 3 Credit Hours

This course will introduce the life course approach in Maternal and Child Health (MCH), and address specific MCH topics (i.e. immunizations, nutrition, pre-term births) from the local, regional, and global perspectives, and organization and policy issues in MCH care in the U.S.

Cross List: HPRO 880.

Typically Offered: FALL

CPH 547 MATERNAL AND CHILD HEALTH THEORIES AND INTERVENTIONS 3 Credit Hours

This course is designed to prepare the graduate student, professional student, or fellow to design intervention strategies to improve the status of children, women, and families. Effective maternal and child health interventions at all levels of Frieden's health impact pyramid will be examined. Emphasis will be placed on (a) the theoretical underpinnings of the interventions and (b) case studies of communities that have successfully implemented the interventions. The course is intended for graduate students and health professionals interested in research and practice with children, women, and families.

Prerequisite: CPH 546 / HPRO 880

Cross List: HPRO 881.

Typically Offered: FALL

CPH 548 LIFE COURSE HEALTH 3 Credit Hours

This course is designed to prepare the graduate student, professional student, or fellow to apply life course theory to research and practice relevant to health at all life stages. The major topics to be covered include the physical, social, and emotional health of children, adolescents, and adults. Special emphasis will be placed on early determinants of health and disease. The course is intended for graduate students and health professionals interested in research and practice with children, women and families.

Cross List: HPRO 882.

Typically Offered: SPRING

CPH 550 EMERGENCY PREPAREDNESS: PREVENTION 3 Credit Hours

An introduction to emergency preparedness concepts such as the Incident Command System, The National Response Framework, agencies, infrastructures, and assets in place to plan for, and respond to emergencies.

Cross List: EPI 810.

Typically Offered: FALL/SPR

CPH 553 EMERGENCY PREPAREDNESS: RESPONSE 3 Credit Hours

An introduction to disaster response-related concepts such as Responder Safety and Health, Citizen Evacuation, Weapons of Mass Destruction, and Medical Surge among other topics.

Cross List: EPI 813.

Typically Offered: FALL/SPR

CPH 554 EMERGENCY PREPAREDNESS: RESPOND AND RECOVERY 3 Credit Hours

An introduction to emergency preparedness concepts, focusing on disaster response-related concepts such as Medical Surge, Behavioral Health, and Mass Fatalities, in addition to short and long term disaster recovery topics.

Cross List: EPI 814.

Typically Offered: FALL/SPR

CPH 555 PUBLIC HEALTH LAW 3 Credit Hours

Conceptual foundations of public health law, including constitutional considerations, federal and state statutes and regulations, tort (civil) law, balancing competing interests (e.g. civil liberties v. monitoring, reporting, persuading, regulating at various levels), current issues emerging trends. Prerequisite: Law students must have completed first year of law school.

Cross List: HPRO 808.

Typically Offered: SUMMER

CPH 557 RESEARCH OTHER THAN THESIS HEALTH PROMOTION, SOCIAL AND BEHAVIORAL HEALTH 1-4 Credit Hours

This course is for more advanced students who wish to pursue their research interests in selected areas of Medical Humanities.

Cross List: HPRO 896.

Typically Offered: FALL/SP/SU

CPH 559 SPECIAL TOPICS IN HEALTH PROMOTION 1-4 Credit Hours

A course designed for Masters students that focuses on selected topics or problems in Health Promotion, Social and Behavioral Health.

Cross List: HPRO 898.

Typically Offered: FALL/SP/SU

CPH 560 U.S. HEALTH CARE SYSTEM: AN OVERVIEW 3 Credit Hours

This course will offer the student an overview of the health and medical care delivery system in the U.S. Topics covered from a historical, economic, organizational, sociological, and political perspectives include the following: the history and evolution of health services, the role of the US Government in healthcare, special and international US Government health programs, US Public Health Systems, US health care delivery systems, urban and rural US health care, the US health insurance systems, pharmaceuticals and biomedical industry, healthcare and medical research, US healthcare workforce, healthcare technology and information systems, US healthcare laws and policy, financing the US healthcare system, professional organizations, quality and accreditation, and the future of healthcare in the US.

Cross List: HSRA 810.

Instructor: Wael ElRayes, MBBCh, PhD, FACHE

Typically Offered: FALL

CPH 561 PUBLIC BUDGETING 3 Credit Hours

The purpose of the course is to familiarize public administration students with the basic characteristics and features of public budgets and enable them to deal competently with them.

Prerequisite: Not open to non-degree students.

Cross List: HSRA 840.

CPH 562 HUMAN RESOURCES MANAGEMENT IN HEALTH ORGANIZATIONS 3 Credit Hours

This course will offer the student an overview of the health and medical care delivery system in the U.S. Topics covered from a historical, economic, sociological, and policy perspective include the following: social values in health care; need, use, and demand for services; providers of health services (people and places); public and private payment systems; alternative delivery systems; and models from other countries. Current health care reform proposals will also be addressed.

Prerequisite: Not open to non-degree students.

Cross List: HSRA 841.

Typically Offered: SPRING

CPH 563 STRATEGIC PLANNING AND MANAGEMENT IN PUBLIC HEALTH ADMINISTRATION 3 Credit Hours

This course examines the theory and practice of strategic planning and management in public health, health services, and voluntary health and welfare organizations. Application of specific principles, concepts, and techniques of strategic planning and management for these organizations will be addressed. The roles and responsibilities of public health and health services administrators in developing, implementing, monitoring and revising strategy will also be examined.

Prerequisite: Instructor permission.

Cross List: HSRA 853.

Typically Offered: FALL

CPH 564 HEALTH ECONOMICS 3 Credit Hours

This course is designed to help students understand how the theories and models of economics can be applied to the study of health and health care. The examination of the markets (demand and supply) for health, health care and health insurance is stressed. In addition, the economic analytic tools such as microeconomic theories and economic evaluation methods will also be reviewed and introduced. The objective of this course is to equip students with the knowledge/tools to examine and analyze the problems/issues of health care from the perspective of economics.

Prerequisite: ECON 2200 (Principles of Economics-Micro) or its equivalent.

Cross List: HSRA 860.

Typically Offered: FALL

CPH 565 HEALTH CARE FINANCE 3 Credit Hours

This course is the required health care financial management course for the Health Care concentration in the MPA program and a required course in the MPH curriculum. Students are not expected to have prior coursework in financial management, managerial and financial accounting. The course does, however, assume the students have some experience with spreadsheet models. This course, which focuses on the application of financial management principles and concepts to health care organizations, consists of (1) instructor lectures, (2) case analyses, (3) presentations, and (4) two examinations. Much of the learning in this course will come from your own individual work and from interacting with other students, so the benefits that you receive will be directly related to your individual efforts.

Prerequisite: Assumes experience with spreadsheet models and statistics

Cross List: HSRA 872.

Typically Offered: FALL

CPH 566 HEALTH POLICY 3 Credit Hours

This course covers the fundamental issue of the health policy process by emphasizing the historical, social, economic, and political environment of contemporary US public health and health care policies. Students are expected to become knowledgeable about policy formation, implementation, modification, and evaluation within public health and health care systems. This course is intended for students who are enrolled in the MPH program and students from other graduate degree programs who have an interest in health policy.

Cross List: HSRA 874.

Typically Offered: FALL

CPH 567 HEALTH POLICY ANALYSIS AND EVALUATION 3 Credit Hours

This course will provide a framework for understanding how to analyze and evaluate the impact of health policies in public health and health care settings. Topics include structuring policy problems, gathering data for policy analysis, monitoring and evaluating policy performance, and communicating the results of policy analysis. The course is intended for students enrolled in the MPH program and students from other graduate degree programs who have an interest in analyzing and evaluating health policies.

Prerequisite: HPRO 805/CPH 505 and HSRA 874/CPH 566.

Cross List: HSRA 867.

Typically Offered: SPRING

CPH 568 COMPARATIVE HEALTHCARE AND PUBLIC HEALTH SYSTEMS 3 Credit Hours

This course is designed to give the graduate student, professional student, or fellows a strong understanding of the comparative aspects of national healthcare and public health systems around the world. At the end of the course, students should be able to understand the main factors to consider when designing and managing health systems at the district, province, national, and international levels. Comparisons will be made between all global regions, including the populous countries of the United States, India, and China, and will include countries and regions of all socioeconomic levels. Other major topics to be covered include health economics and financing, social determinants of disease, innovations in health care and public health, the role of global organizations like the World Health Organization and UNICEF, and evaluation of health care and public health care systems.

Cross List: HSRA 868

Instructor: Wael ElRayes, MBBCh, PhD, MS, FACHE Ward Chambers, MD

Typically Offered: FALL

CPH 580 HEALTH CARE ORGANIZATIONAL THEORY AND BEHAVIOR 3 Credit Hours

This course focuses on introductory level of organizational theory (OT) and organizational behavior (OB) in health services research. Organizational theory is a macro examination of the organizations, focusing on the organization as a unit, and inter-organizational and environmental relationships. Organizational behavior is a micro approach to studying organizations, focusing on individuals in organizations as the unit of analysis.

Cross List: HSRA 830.

Typically Offered: FALL

CPH 585 MASTERS OF HEALTH ADMINISTRATION INTERNSHIP 3 Credit Hours

The internship is an intensive, full-time component of the masters of health administration program providing students both experience and opportunities to observe day-to-day health management operations in a healthcare organization. Skills and knowledge learned in the course of this internship will be used to prepare the student for career placement in management positions within the healthcare industry.

Typically Offered: SUMMER

CPH 586 MASTERS OF HEALTH ADMINISTRATION CAPSTONE 2 Credit Hours

The capstone is designed to provide masters of health administration students with both in-class and applied managerial experience in a healthcare setting. Students are given the opportunity to integrate skills and knowledge learned through classroom instruction in the MHA program in the areas of communication and relationship management, leadership, professionalism, knowledge of the healthcare environment, and business and analytical skills. The capstone prepares students to succeed in management positions with hospitals, clinics and other healthcare organizations. This course must be taken in the final semester of the MHA program.

Typically Offered: SUMMER

CPH 587 RESEARCH OTHER THAN THESIS HEALTH SERVICES RESEARCH AND ADMINISTRATION 1-4 Credit Hours

This course is for more advanced students who wish to pursue their research interests in selected areas of Medical Humanities.

Cross List: HSRA 896.

Typically Offered: FALL/SP/SU

CPH 589 SPECIAL TOPICS HEALTH SERVICES RESEARCH AND ADMINISTRATION 1-4 Credit Hours

A course designed for Masters students that focuses on selected topics or problems in Health Services Research and Administration.

Cross List: HSRA 898.

Typically Offered: FALL/SP/SU

CPH 590 ELEMENTS OF INDUSTRIAL SAFETY FOR HEALTH SCIENCES 3 Credit Hours

An introduction to safety in the general work environment with emphasis on selected OSHA safety regulations, human costs of injuries, safety programs and management, field trip work observations, risk assessment, hazard/risk communications. No previous experience or coursework in safety is required.

Prerequisite: ENV 892/CPH 503 or equivalent introductory environmental health sciences course, instructor permission.

Cross List: ENV 800.

Typically Offered: SPRING

CPH 591 OCCUPATIONAL HEALTH AND SAFETY FOR HEALTH SCIENCES 3 Credit Hours

This course is an introduction to fundamental concepts, methods, and application of occupational and safety for various industrial settings, including hazard analysis and control, OSHA regulations, workers compensation, safety program elements, and safety and health management.

Prerequisite: Graduate student status in health sciences or related discipline and instructor permission.

CPH 592 HUMAN FACTORS AND ERGONOMICS FOR WORK ENVIRONMENTS 3 Credit Hours

An introduction to fundamental concepts of physical work, human abilities and capabilities (ergonomics) including psychological and cognitive aspects of human work performance (human factors) for the reduction of occupational injuries and illnesses, reduced costs, productivity improvement, worker well-being and longevity, quality of work life, and job satisfaction.

Prerequisite: Graduate student status in health sciences or related discipline and instructor permission.

Cross List: ENV 804.

Typically Offered: FALL

CPH 594 ENVIRONMENTAL EXPOSURE ASSESSMENT 3 Credit Hours

The course will allow students to develop their understanding and knowledge of exposure assessment methods and the application of these methods to substantive issues in occupational and environmental health. The course emphasizes methodological principles and good practice, and highlights the many similarities and some interesting differences between occupational and environmental health.

Prerequisite: ENV 892/CPH 503 or equivalent introductory environmental health sciences course, BIOS 806/CPH 506 or equivalent introductory biostatistics course, instructor permission.

Cross List: ENV 816.

Typically Offered: FALL

CPH 595 SUSTAINABILITY, CLIMATE CHANGE AND HEALTH 3 Credit Hours

This course provides an overview of the emerging issue of climate change as it affects society (with a special emphasis on public health), and the development of strategic frameworks of action to prepare for a sustainable and healthy future. The course is divided into three broad areas: frameworks and fundamentals (basic concepts and root causes of climate change and environmental problems); sector assessments (root causes and system impacts; measurement and monitoring); and action (approaches to intervention, core competencies, and communication).

CPH 597 PRINCIPLES OF TOXICOLOGY 3 Credit Hours

An introduction to the principles and methods that are used to determine whether an adverse effect is a result of exposure to a specific agent. A primary purpose of toxicology is to predict human toxicity and human health risk assessment relies heavily on toxicological data obtained from animal studies. This course covers basic mechanisms of toxicity as they pertain to whole organisms, organ systems, and specific toxic agents.

Cross List: ENV 888.

Typically Offered: SPRING

CPH 598 FUNDAMENTALS OF INDUSTRIAL HYGIENE 3 Credit Hours

This course provides fundamental knowledge to the graduate student, or fellow who may be interested in pursuing a career in occupational health and safety. The course is also designed for safety, health, environmental and management personnel who have industrial hygiene effort; anticipation, recognition, evaluation and control. Topics include chemical, physical, and biological hazards in the workplace.

Cross List: ENV 814

Instructor: Chandran Achutan, PhD, CIH

Typically Offered: FALL

CPH 599 PRINCIPLES OF BIOSAFETY 3 Credit Hours

This course is designed for graduate students and health professionals to explore biosafety principles and practices with the purpose of developing a Biorisk Management approach to biosafety. This will enable participants to "effectively identify, monitor and control the laboratory biosafety and biosecurity aspects of activities. This integrated education will allow the student to recognize risky activities from unintentional and intentional incidents involving biological materials and develop mitigation strategies to reduce exposures to these materials. The student will participate in hands on training using engineering controls as well as administrative controls. Competencies in donning and doffing personal protective equipment and use of a biosafety cabinet will be discussed and assessed. Participates will also learn how to develop a risk mitigation plan following the identification of hazards and risk assessment. The targeted audience include doctoral students interested in occupational health, researchers, professional students, and the biosafety profession.

Cross List: ENV 813

Typically Offered: FALL

CPH 600 PRINCIPLES OF FOOD SAFETY 3 Credit Hours

This course is intended for graduate students and health professionals who have an interest in understanding the complexities of preventing foodborne illness. There are no pre-requisites for this course, however the participants should be comfortable discussing themes that include basic scientific concepts, including chemistry and microbiology. This course is designed to ground the graduate student, professional student, or fellow in an understanding of the multifaceted responsibilities and science behind protecting the public's health through food safety. Major topics to be covered include sources, prevention, detection, management, and regulation of foodborne illness. Pre-req: A basic understanding of chemistry and microbiology is recommended.

Cross List: ENV 812.

Typically Offered: SUMMER

CPH 605 HUMAN HEALTH AND DISEASE IN PUBLIC HEALTH 3 Credit Hours

This course is designed to provide graduate students and health professionals with the knowledge of the physiology of the human health and the essential concepts of disease processes. It demonstrates the relevance and application of disease biology knowledge to the epidemiological research and practice. Students will learn how the human physiology works and the changes in pathophysiology. Students will learn specific disorders specifically pathophysiology, etiology, clinical signs, symptoms, and outcomes. Understanding pathophysiology will allow students to comprehend variations in disease burden, distribution and natural history at the individual and population levels. Students will learn about major diseases that have global public health importance.

Cross List: EPI 805.

Typically Offered: FALL

CPH 617 RESEARCH OTHER THAN THESIS ENVIRONMENTAL, AGRICULTURAL AND OCCUPATIONAL HEALTH 1-4 Credit Hours

This course is for more advanced students who wish to pursue their research interests in selected areas of Environmental, Agricultural Occupational Health

Cross List: ENV 896.

Typically Offered: FALL/SP/SU

CPH 619 SPECIAL TOPICS IN ENVIRONMENTAL, AGRICULTURAL AND OCCUPATIONAL HEALTH 1-4 Credit Hours

A course designed for Masters students that focuses on selected topics or problems in Environmental, Agricultural, and Occupational Health.

Cross List: ENV 898.

Typically Offered: FALL/SP/SU

CPH 620 CHRONIC DISEASE EPIDEMIOLOGY 3 Credit Hours

The target audience for this course includes, but is not limited to, student researchers and practitioners in the field of public health. The course will cover risk factors for major chronic diseases such as cancer, diabetes, musculoskeletal disease, and chronic lung disease. Through the course, students will learn advanced concepts and methodology in chronic disease epidemiology research, including disease surveillance and etiologic and outcomes research. Students will also gain experience developing a proposal to conduct an etiological study of a selected chronic disease.

Prerequisite: EPI 820/CPH 504 BIOS 806/CPH 506.

Cross List: EPI 812.

Typically Offered: FALL

CPH 621 APPLIED EPIDEMIOLOGY 3 Credit Hours

This course is designed to provide advanced-level graduate students with epidemiologic data analysis, interpretation and presentation skills. The course presents advanced principles and methods of Epidemiology through the use of simulated and actual research data. The course is suitable for both advanced-level master's students and doctoral students in epidemiology and related fields. The primary goal is to provide working knowledge of the fundamentals of epidemiology to graduate students who wish to further their careers in public health research.

Prerequisite: CPH 628 / EPI 845 Epidemiologic Methods

Cross List: EPI 821.

Typically Offered: FALL

CPH 622 MICROBIOLOGY & IMMUNOLOGY FOR PUBLIC HEALTH 3 Credit Hours

Microbiology has been the cornerstone for scientific discovery and advancement. This course is designed for graduate students and public health professionals interested in infectious diseases and their control, prevention and eradication. Students will learn to specifically apply the knowledge of microbiology and immunology for the benefit of public health. It is suitable for all graduate students and health professionals who wish to have experience in the planning of public health response in communicable diseases. A variety of methods such as assignments, intensive class discussions, quizzes, and a group presentation focusing on the use of microbiology and immunology in public health response, are incorporated to facilitate student-centered and collaborative learning.

Prerequisite: CPH 605/ EPI 605 Human health and disease in public health or Instructor permission.

Cross List: EPI 822

Typically Offered: FALL

CPH 623 THEORY AND METHODS OF INFECTIOUS DISEASES EPIDEMIOLOGY 3 Credit Hours

Infectious diseases are as varied as they are numerous. Yet, core features of any evolving infectious threat determine both spread and the patient and community experience from disease. In this course, graduate students and public health professionals will focus predominantly on the theory, language, and core methods involved in characterizing epidemiologic facets of infectious diseases relevant to further advanced study, health emergency risk management, and myriad roles in the prevention and mitigation of these threats. Students will read, engage in class and virtual discussions, complete quizzes, write, and present their work.

Prerequisite: CPH 504/EPI 820, an equivalent epidemiology methods course or permission of instructor.

Cross List: EPI 825.

Typically Offered: SPRING

CPH 626 HEALTH INFORMATION AND SURVEILLANCE FOR PUBLIC HEALTH PRACTICE 3 Credit Hours

This course focuses on the role of health information and health information systems for the practice of national, state- and community-level public health.

Prerequisite: BIOS 806/CPH 506 and EPI 820/CPH 504.

Cross List: EPI 835.

Typically Offered: FALL/SPR

CPH 628 EPIDEMIOLOGIC METHODS 3 Credit Hours

This course is primarily designed for graduate students and health professionals interested in learning in-depth epidemiologic concept and methods. Methods covered in this course include approaches to minimize random and systematic error, advanced screening methods, systematic reviews and meta-analyses, nested case-control and case-cohort studies, matched case-control and cohort studies, clinical trials, longitudinal epidemiologic studies, and analyses of national surveys with multistage complex sampling. Students will practice their skills using SAS and RevMan on simulated and actual research data.

Prerequisite: CPH 506/BIOS 806 Biostats I; CPH 504/EPI 820 -

Epidemiology; CPH 651/BIOS 810 - Intro to SAS Strongly recommended.

Cross List: EPI 845

Typically Offered: FALL

CPH 631 EMERGENCY PREPAREDNESS: PROTECTION 3 Credit Hours

An introduction to emergency preparedness concepts, in preparation for naturally occurring disasters, intentional acts of terrorism, and new emerging infectious disease threats. Students will explore Critical Infrastructure protection, agriculture, and food safety, surveillance and detection of biological agents among other topics.

Cross List: EPI 811.

Typically Offered: FALL/SP/SU

CPH 637 SOCIAL EPIDEMIOLOGY 3 Credit Hours

The purpose of this course is to introduce students to the major social variables relevant to public health and health outcomes typical of the field of Social Epidemiology. Anticipated topics include: social class, poverty, education and occupation, gender, race, social networks/ support, and work neighborhood environments. Pre-req: CPH 504/EPI 820 Epidemiology in Public Health, Cross-listed: EPI 837

Typically Offered: SPRING

CPH 647 RESEARCH OTHER THAN THESIS IN EPIDEMIOLOGY 1-4 Credit Hours

This course is for more advanced students who wish to pursue their research interests.

Cross List: EPI 896.

Typically Offered: FALL/SP/SU

CPH 649 SPECIAL TOPICS IN EPIDEMIOLOGY 1-4 Credit Hours

A course designed for Masters students that focuses on selected topics or problems in Epidemiology.

Cross List: EPI 898.

Typically Offered: FALL/SPR

CPH 650 BIostatISTICS II 3 Credit Hours

This course is designed to prepare the student to understand and apply advanced biostatistical methods needed in the design and analysis of biomedical and public health investigations. The major topics to be covered include multiple linear regression, analysis of covariance, logistic regression, survival analysis, and repeated measures analysis.

Prerequisite: BIOS 806/CPH 506 or an equivalent course.

Cross List: BIOS 808.

Typically Offered: SPRING

CPH 651 INTRODUCTION TO SAS PROGRAMMING 3 Credit Hours

An introduction to programming for statistical and epidemiologic analysis using the SAS Software System. Students will learn to access data from a variety of sources (e.g. the web, Excel, SPSS, data entry) and create SAS datasets. Data management and data processing skills, including concatenation, merging, and sub-setting data, as well as data restructuring and new variable construction using arrays and SAS functions will be taught. Descriptive analysis and graphical presentation will be covered. Concepts and programming skills needed for the analysis of case-control studies, cohort studies, surveys, and experimental trials will be stressed. Simple procedures for data verification, data encryption, and quality control of data will be discussed. Accessing data and summary statistics on the web will be explored. Through in-class exercises and homework assignments, students will apply basic informatics techniques to vital statistics and public health databases to describe public health characteristics and to evaluate public health programs or policies. Laboratory exercises, homework assignments, and a final project will be used to reinforce the topics covered in class. The course is intended for graduate students and health professionals interested in learning SAS programming and accessing and analyzing public use datasets from the web.

Prerequisite: BIOS 806/CPH 506 or an equivalent course.

Cross List: BIOS 810.

Typically Offered: FALL/SPR

CPH 652 BIOSTATISTICAL METHODS II 3 Credit Hours

This course is designed to prepare the graduate student to analyze continuous data and interpret results using methods of linear regression and analysis of variance (ANOVA). The major topics to be covered include simple and multiple linear regression model specification and assumptions, specification of covariates, confounding and interactive factors, model building, transformations, ANOVA model specification and assumptions, analysis of covariance (ANCOVA), multiple comparisons and methods of adjustment, fixed and random effect specification, nested and repeated measures designs and models, and diagnostic methods to assess model assumptions. Interpretation of subsequent analysis results will be stressed. Concepts will be explored through critical review of the biomedical and public health literature, class exercises, an exam, and a data analysis project. Statistical analysis software, SAS (SAS Institute Inc., Cary, NC, USA.), will be used to implement analysis methods. The course is intended for graduate students and health professionals who will be actively involved in the analysis and interpretation of biomedical research or public health studies.

Prerequisite: BIOS 806/CPH 506 or an equivalent course, BIOS 810/CPH 651 or equivalent experience with SAS programming, calculus (including differential and integral calculus), and instructor permission.

Cross List: BIOS 818.

Typically Offered: FALL

CPH 653 CATEGORICAL DATA ANALYSIS 3 Credit Hours

Survey of the theory and methods for the analysis of categorical response and count data. The major topics to be covered include proportions and odd ratios, multi-way contingency tables, generalized linear models, logistic regression for binary response, models for multiple response categories, and log-linear models. Interpretation of subsequent analysis results will be stressed.

Prerequisite: BIOS 818/CPH 652 or an equivalent course, CPH 651/BIOS 810 or equivalent experience with SAS programming, and instructor permission.

Cross List: BIOS 823.

Typically Offered: SPRING

CPH 654 SURVIVAL DATA ANALYSIS 3 Credit Hours

The course teaches the basic methods of statistical survival analysis used in clinical and public health research. The major topics to be covered include the Kaplan-Meier product-limit estimation, log-rank and related tests, and the Cox proportional hazards regression model. Interpretation of subsequent analysis results will be stressed.

Prerequisite: BIOS 818/CPH 652 or an equivalent course, CPH 651/BIOS 810 or equivalent experience with SAS programming, and instructor permission.

Cross List: BIOS 824.

Typically Offered: FALL

CPH 655 CORRELATED DATA ANALYSIS 3 Credit Hours

A survey of the theory and methods for analysis of correlated continuous, binary, and count data. Major topics to be covered include linear models for longitudinal continuous data, generalized estimating equations, generalized linear mixed models, impact of missing data, and design of longitudinal and clustered studies. Interpretation of subsequent analysis results will be stressed. Concepts will be explored through critical review of the biomedical and public health literature, class exercises, two exams, and a data analysis project. Computations will be illustrated using SAS statistical software (SAS Institute Inc., Cary, NC, USA.). The course is intended for graduate students and health professionals who will be actively involved in the analysis and interpretation of biomedical research or public health studies.

Prerequisite: BIOS 818/CPH 652 or an equivalent course, CPH 651/BIOS 810 or equivalent experience with SAS programming, and instructor permission.

Cross List: BIOS 825.

Typically Offered: SPRING

CPH 656 BIOSTATISTICAL COMPUTING 3 Credit Hours

This course is designed for graduate students that are interested in statistical computing. The course will introduce graduate students to the R statistical language, PYTHON and their uses in biostatistical computing. Topics include introductory R, data management and manipulation, loops, vectorizing code, writing functions, coding shiny apps, pipe operators, resampling methods, data simulation and data visualization. In addition, students will be introduced to PYTHON and the R reticulate package for harnessing the power of PYTHON from within R. Prerequisite: BIOS 806/CPH 506 or equivalent, CPH 651/BIOS 810 or instructor permission.

Cross List: BIOS 815

Instructor: Christopher Wichman, PhD

Typically Offered: FALL

Capacity: 30

CPH 657 BIOSTATISTICS THEORY I 3 Credit Hours

This course is designed to prepare students to have a solid understanding of the probabilistic tools and language (at a rigorous and advanced calculus level) needed as a foundation of biostatistical inference. Major topics to be covered include probability theory, transformations and expectations of random variables, families of distributions, random vectors, sampling distributions, and convergence.

Prerequisite: Calculus I, II and III, or equivalent courses; and instructor permission.

Cross List: BIOS 801

Instructor: Gleb R. Haynatzki, PhD

Typically Offered: FALL

Capacity: 15

CPH 658 BIOSTATISTICS THEORY II 3 Credit Hours

This course is designed to prepare Masters students in Biostatistics to have a solid understanding of biostatistical inference. Major topics to be covered include random samples, data reduction, point estimation, hypothesis testing, interval estimation, and prediction for common parametric models.

Cross List: BIOS 802

Instructor: Gleb R. Haynatzki, PhD

Typically Offered: SPRING

Capacity: 15

CPH 677 RESEARCH OTHER THAN THESIS IN BIOSTATISTICS 1-4 Credit Hours

This course is for more advanced students who wish to pursue their research interests in selected areas of Medical Humanities.

Prerequisite: Program permission, instructor permission.

Cross List: BIOS 896.

Typically Offered: FALL/SP/SU

CPH 679 SPECIAL TOPICS IN BIOSTATISTICS 1-4 Credit Hours

A course designed for Masters students that focuses on selected topics or problems in Biostatistics.

Prerequisite: Instructor permission.

Cross List: BIOS 898.

Typically Offered: FALL/SP/SU

CPH 705 PUBLIC HEALTH TEACHING AND TRAINING 3 Credit Hours

This course is designed to develop graduate students teaching skills and strategies necessary to meet the professional demands of conducting public health teaching and training. Major topics to be covered are adult learning theory, instructional design, conducting a needs analysis, training program evaluation, as well as creating teaching modules for the in-person, synchronous, and asynchronous environments.

Instructor: Christine Arcari, PhD, MPH

Typically Offered: FALL

Capacity: 30

CPH 710 RESEARCH GRANT PROPOSAL DEVELOPMENT 3 Credit Hours

This course offers graduate students and health professionals a practical experience writing a research grant proposal for submission to the National Institutes of Health (NIH). Students will learn how to formulate research questions, develop study aims, and build research designs closely tied to analysis plans and research outcomes. Students will learn how to find and respond to various federal and non-federal funding mechanism opportunities. Students will participate in a mock NIH study section, during which they will learn the NIH peer review process and they will critique research grant proposals. Throughout the course, students will work interactively with faculty members who have successfully served as principal investigators and co-investigators of multiple federally-funded research proposals or contracts in different disciplines.

Prerequisite: CPH 504 or equivalent introductory epidemiology course, CPH 506 or equivalent introductory biostatistics course. Crosslisted: EPI 910.

Typically Offered: SPRING

CPH 715 MIXED METHODS RESEARCH 3 Credit Hours

The intent of this course is to provide an overview of mixed methods research to graduate students who are already familiar with quantitative and qualitative research. This introduction consists of defining mixed methods research, describing the history and foundations of this emerging form of research, and discussing strategies for locating and reading mixed methods studies in the literature. We will specify the types of mixed methods designs available and discuss the process of research as it relates to each of these designs. This process includes writing an introduction, developing a purpose statement and research questions, selecting a design, and collecting, analyzing and interpreting data within the designs as well as reporting and evaluating the study. This course will also discuss important issues and future directions that relate to mixed methods research. The course will have an applied focus where many students design a proposal for a mixed methods study (such as for their dissertation) as their final project.

Cross List: HPRO 903

Typically Offered: SUMMER

CPH 718 LEADERSHIP THEORY AND PRACTICE 3 Credit Hours

The course includes the study of leadership as well as the application of leadership theories, concepts, and skills. The course will explore leadership from the individual level, team level, and the organizational level. Students in this course will examine historical and contemporary leadership theories. Additionally, students will reflect on their leadership experiences through the lens of the introduced theories.

Instructor: Brandon Grimm, PhD, MPH

Typically Offered: FALL

Capacity: 30

CPH 723 EPIDEMIOLOGICAL METHODS IN INFECTIOUS DISEASE OUTBREAK INVESTIGATIONS 3 Credit Hours

What happens when a public health professional receives the first phone call about a potential outbreak? It triggers a chain of events and activities focused on identifying and containing the outbreak in a timely manner. In this course, students will learn about the different components of an outbreak investigation. Each outbreak is a unique event that requires the expertise in field epidemiology methods. This course is designed for graduate students and health professionals to learn these skills through in-class lectures, readings, class discussions and simulations. Faculty from the Department of Epidemiology will teach this course in cooperation with professionals from State and County Health Departments to offer an authentic learning experience. Real world examples will help in translating the theoretical principles into field procedures and protocols followed during outbreak investigations.

Prerequisite: CPH 504/ EPI 820. Crosslisted: EPI 923.

Typically Offered: FALL

CPH 724 INFECTIOUS DISEASE MODELING 3 Credit Hours

This course is designed for graduate students and health professionals interested in utilizing mathematical models to predict communicable disease transmission and epidemic dynamics. The knowledge and skills acquired in this course will help students in designing strategies to mitigate infectious disease epidemics. Pre-reqs: CPH 623/ EPI 825 or equivalent infectious disease methods courses. Cross-listed: EPI 924

Typically Offered: FALL

CPH 725 THE PRACTICE OF INFECTIOUS DISEASE EPIDEMIOLOGY 3**Credit Hours**

This course is designed to provide practical experience to students obtaining a PhD degree in Epidemiology with a concentration in Infectious Diseases (It may, however, be taken as an elective by doctoral-level students in other areas of concentration within the College of Public Health) As such, it covers practical problems which might arise in the practice of infectious disease epidemiology and is designed to prepare students about to embark on "real-world" careers with local and state health departments, clinical institutions, NGOs, and industry. These problems include (but are not limited to): bioterrorism preparation and response; planning for and managing patients with highly hazardous communicable diseases; implementing immunization programs; instituting and managing infection control and antibiotic stewardship programs; implementing isolation and quarantine orders; crafting patient safety initiatives; and overseeing quality assurance and laboratory management programs.

Prerequisite: CPH 504/EPI 820 Crosslisted: EPI 925.

Typically Offered: FALL

CPH 726 EXERCISE DESIGN 3 Credit Hours

This course is designed to prepare the graduate student, professional student, or fellow to design, develop, and conduct tabletop, functional and full scale exercises to test disaster plans.

Prerequisite: CoPH Core Courses in Emergency Preparedness (EPI 810,811,813,814) (completed or in-progress) or equivalent experience in practice.

Instructor: Sharon Medcalf, PhD Assistant Professor Department of Epidemiology College of Public Health Office: MCPH 1039 Phone: 402-552-2529 Email: smedcalf@unmc.edu Keith Hansen, MBA Assistant Dean College of Public Health Office: MCPH 2056 Phone: 402-552-3501 kfhausen@unmc.edu

Typically Offered: FALL/SPR

Capacity: 24

CPH 727 MANAGING COMPLEX DISASTERS 3 Credit Hours

This course is designed to prepare the graduate student, professional student, or fellow to manage a complex incident or disaster using principles of the national incident management system. Major topics to be covered include expansion actions as a disaster becomes more complex, establishing and operating an Area Command, and designing and managing a Multiagency Coordination System.

Prerequisite: CoPH Core Courses in Emergency Preparedness (EPI 810,811,813,814) (completed or in-progress) or equivalent experience in practice.

Instructor: Keith Hansen, MBA Assistant Dean College of Public Health Office: MCPH 2056 Phone: 402-552-3501 kfhausen@unmc.edu

Typically Offered: FALL/SPR

Capacity: 24

CPH 741 EPIDEMIOLOGIC METHODS IN APPLIED CLINICAL GENETICS 3**Credit Hours**

This course is designed to prepare the graduate student and health professional on the theory and methods of genetic epidemiology of complex diseases using association studies. Major topics include: Mendelian inheritance, design strategies for genetic association studies, bias in genetic studies and population stratification, SNP selection, genotype, diplotype and haplotype analyses, linkage disequilibrium, Hardy-Weinberg equilibrium (HWE), gene by environment interactions, power analysis, critical review of genetic association manuscripts, and hands-on data analysis using statistical and specialized genetic software. Pre-reqs: CPH 504, CPH 506 and knowledge of a statistical software package (SAS or SPSS) or instructor permission.

Typically Offered: FALL

CPH 745 ANALYTICAL EPIDEMIOLOGIC METHODS II 3 Credit Hours

This course is designed primarily for graduate and professional students interested in performing analyses of epidemiologic data. Topics include analyses of multinomial and longitudinal data, multiple imputation, Poisson regression, Geographic Information System (GIS) and genetic analyses. Students will practice their skills by performing SAS analyses of simulated and actual research data.

Prerequisite: CPH 621, CPH 506, CPH 651

Typically Offered: FALL

CPH 746 EPIDEMIOLOGY IN PUBLIC HEALTH PRACTICE 3 Credit Hours

This course provides students the opportunity to explore public health problems and issues - such as infectious diseases, chronic diseases and preparedness - through the lens of epidemiology. By applying the concepts learned throughout their program coursework to current public health problems and issues, students will understand the practice of epidemiology as it relates to real life and informs public health programs and policies. This course is intended primarily for doctoral students in epidemiology and public health to apply their training to public health practice and research. Pre-req: CPH 628 Epidemiologic Methods or equivalent. Cross-listed EPI 946

Typically Offered: SPRING

CPH 752 MENTAL HEALTH EPIDEMIOLOGY 3 Credit Hours

In this on-campus course, students will learn about epidemiology of major mental and substance use disorders, critically review the published epidemiology studies on mental and substance use disorders, and develop a proposal to evaluate a population-based intervention program to prevent and control a mental or substance use disorder. The course will promote active learning and prepare students for real-world experience. This is an advanced-level epidemiology class for students, researchers, and practitioners in public health, medicine, nursing and other health science disciplines who completed EPI 820 (or equivalent) and EPI 845 (or equivalent).

Cross List: EPI 952

Typically Offered: SPRING

CPH 753 CANCER EPIDEMIOLOGY 3 Credit Hours

The course covers the main concepts in cancer epidemiology, such as cancer incidence and mortality trends, cancer etiological factors, cancer prevention and control. Students will apply epidemiology research methods to the field of cancer and will learn how to identify research gaps and address them using epidemiology methods. In addition, the students will understand how cancer epidemiology contributes to policies that ultimately contribute to cancer prevention.

Cross List: EPI 953

Typically Offered: SPRING

CPH 755 ENVIRONMENTAL EPIDEMIOLOGY 3 Credit Hours

The course is designed to provide an advanced discussion of the epidemiology of environmentally-related disease and the application of epidemiologic concepts and methods to protecting public health from environmental hazards. Substantive topics include important environmental exposures; these are used to illustrate exposure assessment methodology, the dynamic nature of environments, the strengths and limitations of epidemiologic designs and the impact of regulation of environmental hazards in public health.

Prerequisite: EPI 821, CPH 506, CPH 594 or instructor permission.

Crosslisted: EPI 955.

Typically Offered: SUMMER

CPH 757 SURVEY RESEARCH METHODS 3 Credit Hours

This course is designed to prepare the graduate students and working professionals with a strong foundation in survey research methodology. This is a comprehensive course covering the design, implementation, analysis, interpretation, and reporting of epidemiologic survey results. The course includes hands-on experience with data analysis using SAS. In this course, students will also learn to search, access and analyze data from national surveys to conduct epidemiologic studies. Upon completion of the course, students are expected to be able to design and analyze surveys to address particular research questions or evaluate public health policy.

Prerequisite: CPH 628, CPH 506, CPH 651, students should consult with their advisor if other coursework or experience qualifies as prerequisite.

Crosslisted: EPI 957

Typically Offered: FALL

CPH 758 EPIDEMIOLOGIC ANALYSIS OF HEALTHCARE DATA 3 Credit Hours

This course is designed for graduate and health professions students interested in analyzing healthcare data for epidemiologic and clinical research. Students will learn the unique challenges and opportunities of working with insurance claims data, electronic health records, national surveys and national registries. Students will also learn to use Geographic Information System (GIS) approaches to link social determinants of health and clinical outcomes. Students will practice their skills by performing hands-on analyses of simulated and actual research data. Upon completion of this course, students should be equipped with the tools necessary to analyze healthcare data and apply the results to address health care and public health challenges.

Prerequisite: CPH 621, CPH 506, CPH 651.

Typically Offered: FALL

CPH 760 TEACHING PRACTICUM 1 Credit Hour

The teaching practicum is designed to give doctoral students an opportunity to apply teaching theory, best practices and learning methods covered through epidemiology seminar series into teaching experience in a traditional classroom. Students will work with an epidemiology faculty member to design, develop and implement presentation plans, assessment to teach in a live classroom environment.

Prerequisite: CPH 504 or instructor permission. Crosslisted: EPI 960

Typically Offered: FALL

CPH 798 DRPH PRACTICUM 1-6 Credit Hours

The purpose of this course is to provide an advanced applied practice experience, allowing opportunities for students to develop leadership competencies and contribute to a public health setting. Students work with senior public health practitioners and leaders to address a need identified by the host organization that directly relates to the student's academic goals and professional interests. Students are responsible for completing a work project that is meaningful to the organization and advances public health practice. The work product may be a single project or a set of related projects that demonstrate a depth of competence. Relevant organizations may include governmental, non-governmental, non-profit, industrial and for-profit settings. The practicum should take place within an organization external to the college. The applied practice experience may be completed within a student's own work setting.

Prerequisite: Students are eligible to begin work on their practicum upon completion of the following prerequisites: minimum 18 credit hours of coursework, good academic standing with a grade point average of at least 3.0, completion of the DrPH Learning Contract, and permission of instructor.

Typically Offered: FALL/SP/SU

CPH 799 DRPH INTEGRATIVE LEARNING EXPERIENCE 1-6 Credit Hours

The integrative learning experience is a practice-based dissertation that generates field-based products consistent with advanced public health practice designed to influence programs, policies or systems addressing public health.

Prerequisite: Permission of instructor

Typically Offered: FALL/SP/SU