

# MASTER OF PUBLIC HEALTH PROGRAM

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## APPROVED ELECTIVES

Elective courses allow students to individualize their programs and develop specialty skills in one or more areas. They may also be taken to improve knowledge gaps and deficits. The courses below have been approved based on their ability to address the core and cross-cutting public health competencies. Students who wish to take a course for elective credit that does not appear on this list should seek individual approval from the MPH Program. For complete up-to-date course information please check the University's [Schedule of Classes](#) and [Course Guide](#).

**Biostatistics.** Biostatistics is the development and application of statistical reasoning and methods in addressing, analyzing and solving problems in public health; health care; and biomedical, clinical and population-based research.

**Environmental Health.** Environmental health sciences represent the study of environmental factors including biological, physical and chemical factors that affect the health of a community.

**Epidemiology.** Epidemiology is the study of patterns of disease and injury in human populations and the application of this study to the control of health problems.

**Health Policy & Management.** Health policy and management is a multidisciplinary field of inquiry and practice concerned with the delivery, quality and costs of health care for individuals and populations. This definition assumes both a managerial and a policy concern with the structure, process and outcomes of health services including the costs, financing, organization, outcomes and accessibility of care.

**Social & Behavioral Sciences.** The social and behavioral sciences in public health address the behavioral, social and cultural factors related to individual and population health and health disparities over the life course. Research and practice in this area contributes to the development, administration and evaluation of programs and policies in public health and health services to promote and sustain healthy environments and healthy lives for individuals and populations.

**Communication & Informatics.** The ability to collect, manage and organize data to produce information and meaning that is exchanged by use of signs and symbols; to gather, process, and present information to different audiences in-person, through information technologies, or through media channels; and to strategically design the information and knowledge exchange process to achieve specific objectives.

**Diversity & Culture.** The ability to interact with both diverse individuals and communities to produce or impact an intended public health outcome.

**Leadership.** The ability to create and communicate a shared vision for a changing future; champion solutions to organizational and community challenges; and energize commitment to goals.

**Public Health Biology.** The ability to incorporate public health biology – the biological and molecular context of public health – into public health practice.

**Professionalism.** The ability to demonstrate ethical choices, values and professional practices implicit in public health decisions; consider the effect of choices on community stewardship, equity, social justice and accountability; and to commit to personal and institutional development.

**Program Planning.** The ability to plan for the design, development, implementation, and evaluation of strategies to improve individual and community health.

**Systems Thinking.** The ability to recognize system level properties that result from dynamic interactions among human and social systems and how they affect the relationships among individuals, groups, organizations, communities, and environments.

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**APPROVED ELECTIVES**

## **BIostatISTICS**

### **STAT 542 Fundamentals of Clinical Trials**

Credits: 3

Offered: Spring

Prerequisites: Stat 541 or equivalent or consent of instructor

Cross lists: BMI

This course is intended for biomedical researchers interested in the design and analysis of clinical trials. Topics include definition of hypotheses, measures of effectiveness, sample size, randomization, data collection and monitoring, and issues in statistical analysis.

### **BMI 544 Introduction to Clinical Trials II**

Credits: 3

Offered: Fall

Prerequisites: BMI 541 or equiv & BMI 542 & cons inst.

Intended for biomedical researchers, focuses on design, implementation, and conduct of clinical trials. Topics include: regulatory requirements; data collection; data quality and management; budgets; federal, institutional, and sponsor-defined requirements; establishment of research infrastructures; preparation of investigator-INDs; investigator responsibilities.

### **STAT 641 Statistical Methods for Clinical Trials**

Credits: 3

Offered: Fall

Prerequisites: Math/Stat 310 or equivalent or consent of instructor

Statistical issues in the design of clinical trials, basic survival analysis, data collection and sequential monitoring. Intended for statistics graduate students; those with medical backgrounds should take Stat 542.

### **STAT 642 Statistical Methods for Epidemiology**

Credits: 3

Offered: Spring

Prerequisites: Stat 310 or equivalent or consent of instructor

Methods for analysis of case-control, cross sectional, and cohort studies. Covers epidemiologic study design, measures of association, rates, classical contingency table methods, and logistic and Poisson regression.

### **POP HLTH 800 Quantitative Methods in Population Health**

Credits: 3

Offered: Spring

Prerequisites: Graduate student in population health and POP HLTH/BMI 551 or equivalent or consent of instructor

Lectures and small group collaborative labs address: rates and risks and classical analysis techniques for epidemiological studies; ordinary and logistic regression; and survival analysis. Students learn data analysis methods on data-sets from ongoing projects of UW faculty.

## **ENVIRONMENTAL HEALTH**

### **POP HLTH 502 Air Pollution and Human Health**

Credits: 3

Offered: Fall

Prerequisites: A course in biology; junior standing

Cross lists: ENVIR ST

Toxicologic, controlled and epidemiologic studies on major air pollutants. Overview of study methods, lung physiology and pathology; air pollution sources, types, meteorology, sampling methods, controls and regulations.

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**APPROVED ELECTIVES**

**M&ENVTOX 625 Toxicology I**

Credits: 3

Offered: Fall

Prerequisites: Biochem 501 & Physiol 335 or cons inst. Path 401 & Phmcol 401 or equiv recommended

Cross lists: AHABS, MEDICINE, M&ENVTOX, ONCOLOGY, PATH, PHM SCI, PHMCOL-M, POP HLTH

Basic principles of toxicology and biochemical mechanisms of toxicity in mammalian species and man.

Correlation between morphological and functional changes caused by toxicants in different organs of the body.

**M&ENVTOX 626 Toxicology II**

Credits: 3

Offered: Spring

Prerequisites: Env Tox 625 or cons inst

Cross lists: AHABS, MEDICINE, M&ENVTOX, PATH, PHM SCI, PHMCOL-M, POP HLTH

A course surveying the basic methods and fundamental biochemical mechanisms of toxicity. Toxicity in mammalian organ systems, techniques for evaluating toxicity, as well as mechanisms of species specificity, and environmental interactions (with toxicant examples) are presented.

**CIV ENGR 631 Toxicants in the Environment: Sources, Distribution, Fate & Effects**

Credits: 3

Prerequisites: Chem 343 & 345 or equiv; Chem 561 or equiv; Physics 103 & 104 or equiv; Math 211; or cons inst

Offered: Spring

Cross lists: CIV ENGR, M&ENVTOX, SOIL SCI

Nature, sources, distribution, and fate of contaminants in air, water, soil, and food and potential for harmful exposure.

## **EPIDEMIOLOGY**

**POP HLTH 621 Introduction to Nutritional Epidemiology**

Credits: 1

Offered: Fall

Prerequisites: Stat 301 or equiv & Nutr Sci 332 or cons inst

Cross lists: NUTR SCI, POP HLTH

Techniques used to evaluate relationships of diet to health and disease in human populations; integration of knowledge gained with results of animal and clinical studies toward understanding dietary risk or protective factors for disease. Includes advanced diet assessment and basic epidemiologic approaches.

**POP HLTH 791 Physical Activity Epidemiology**

Credits: 1

Offered: Occassionally

Prerequisites: Graduate student or consent of instructor

Cross lists: KINES, POP HLTH

Recommendations for and surveillance of physical activity in the U.S., and associations with health and disease at the population level. Emphasis on measurement techniques, study design and research considerations.

**POP HLTH 798 Epidemiologic Methodology**

Credits: 3

Offered: Spring

Prerequisites: Pop Hlth 797; or cons inst

The main emphasis is the design and interpretation of epidemiologic studies. Includes hands-on experience in the evaluation of epidemiologic evidence, the analysis of epidemiologic data, and the discussion of strategies aimed to improve study validity and efficiency.

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**POP HLTH 801 Infectious Disease Epidemiology**

Credits: 3

Offered: Spring

Prerequisites: Pop Hlth 797; or cons inst

Introduces basic methods to studying the epidemiology of infectious diseases and reviews infectious diseases of major public health importance. Covers the basics of microbiology, immunology, and laboratory-based methods and the principles of disease surveillance, outbreak investigation, mathematical models of disease transmission, and prevention strategies. The etiology, epidemiology, prevention, and treatment of ancient, modern, and emerging infectious diseases will be examined.

**POP HLTH 802 Advanced Epidemiology: Etiology and Prevention**

Credits: 3

Offered: Fall

Prerequisites: Grad st, Pop Hlth 797 & 798; or cons inst

The course addresses the epidemiological basis for understanding the etiology and prevention of major diseases. Students integrate information about disease patterns, epidemiological methods, and published studies to identify research questions and design a project.

**POP HLTH 904 (Section 002) Special Topics in Epidemiology: Genetic Epidemiology**

Credits: 2

Offered: Fall

Prerequisites: Varies

This course will provide an introduction to genetic epidemiology, particularly genetic association studies. Topics will include a general overview of genetics and Mendelian and complex inheritance. Discussion will include the various elements of study design, including definition of study population, participant ascertainment, phenotype definition, selection of genetic markers, determination of the type of biologic sample to be collected for extraction of the DNA, data collection and management, and choice of analytic methods.

**POP HLTH 904 (Section 003) Analytic Methods in Genetic Epidemiology**

Credits: 2

Offered: Summer

Prerequisites: Varies

This course offers a unique opportunity to take part in the international Genetic Analysis Workshop (<http://www.gaworkshop.org/>). The purpose of the GAW is to provide an opportunity for statisticians, epidemiologists, geneticists, and other scientists to interact to address methodological issues in genetic analysis.

**POP HLTH 904 (Section 004) Special Topics in Epidemiology: Global Health**

Credits: 2

Offered: Fall

Prerequisites: Varies

The purposes of this course is to explore the relationship between globalization and health and provide students with an understanding of: a) major indicators and determinants of health and health disparities across populations, from less to more developed countries; b) the role of epidemiology in developing proven and potential interventions to improve global health and reduce health disparities; and c) methodological and ethical considerations in international health research.

**POP HLTH 904 (Section 005) Special Topics in Epidemiology: Cardiovascular Diseases**

Credits: 2

Offered: Fall or spring

Prerequisites: Varies

This course is directed to graduate and undergraduate students interested in the epidemiology of cardiovascular diseases. The main emphasis of POP HLTH 904 is the discussion of the population distribution, health impact, risk factors, treatment, and prevention of cardiovascular diseases.

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**APPROVED ELECTIVES**

**POP HLTH 904 (Section 006) Special Topics in Epidemiology: HIV/AIDS**

Credits: 1

Offered: Summer

Prerequisites: Varies

This course is designed to provide an introduction to the principles and practice of infectious disease epidemiology—specifically HIV/AIDS. It will focus on the etiology, distribution and determinants of HIV/AIDS and describe prevention and public health control efforts undertaken locally, nationally and internationally.

## **HEALTH POLICY & MANAGEMENT**

**NUTRI SCI 540 Community Nutrition Programs and Policy Issues**

Credits: 1

Offered: Spring

Prerequisites: Nutr Sci 431 or cons inst

Students will increase their understanding of community-based nutrition needs, intervention programs and policy issues in the U.S. Written assignments will demonstrate students' positions on related issues.

**POP HLTH 650 (Section 022) State-Level Health System and Coverage Reform**

Credits: 1

Offered: Summer

Prerequisites: Varies

This one week course focuses on the state's role in health care coverage, trends in public and private insurance coverage, and current issues and debates about reform nationally and in Wisconsin.

**NURSING 703 Health Care and Public Policy in the US**

Credits: 3

Offered: Occasionally

Prerequisites: Graduate student

An overview of the development and implementation of health policy in the US includes legislative process, influences on these processes and nursing role. Analysis of health policies, impact of policies on health care systems and health of populations.

**POP HLTH 703 Quality of Health Care: Evaluation and Assurance**

Credits: 1-3

Offered: Occasionally

Prerequisites: Major or minor in population health, or cons inst

Cross lists: I SY E, POP HLTH

Implementation, oversight, and management of quality-oriented activities in health care settings. Overview of current and historical activities, approaches, and issues confronting health care related to quality assessment, assurance, and improvement.

**LAW 768 Consumer Health Advocacy and Patient Centered Care Clinical**

Credits: 1-7

Offered: Fall, Spring, Summer

Prerequisites: Grad or Professional st or acceptance in Capstone Certificate in Consumer Health Advocacy

Cross lists: LAW, MED SC-M, NURSING

Interdisciplinary health advocacy clinical supervised by diverse professional staff. Provide broad advocacy to patients with life-threatening and serious chronic illnesses. Advocacy topics include: medical decision-making, insurance, medical debt, disability issues. Weekly discussions of patient cases and related guest lectures.

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**APPROVED ELECTIVES**

**LAW 769 Consumer Issues in Health Care**

Credits: 1-3

Offered: Fall, Spring, Summer

Prerequisites: Grad st

Cross lists: LAW, MED SC-M, NURSING

Explores consumer issues in health care delivery in interdisciplinary discussion-based format. Covers current delivery system, expenditures/finance, managed care/insurance, barriers to access, reform, and other select topics. Ideal for future healthcare providers and others interested in patients' experiences.

**POP HLTH 848 Health Economics**

Credits: 1-3

Offered: Occasionally

Prerequisites: Graduate student

Cross lists: ECON, POP HLTH

Health economics issues including demand, supply and pricing, market structure, medical malpractice, technological change, value of life, role of insurance, and other aspects of uncertainty.

**PUB AFFR 864 Health Policy & Policy Design**

Credits: 3

Offered: Occasionally

Prerequisites: Grad st

A survey course on health care policy in the United States, including examination of the design of health policy and the politics of health care reform.

**PUB AFFR 874 Policy Making Process**

Credits: 3

Offered: Occasionally

Prerequisites: Grad st

Crosslists: PUB AFFR, POLI SCI, URB R PL

An intensive study of policy-making processes involved in the formulation of public policies.

**POP HLTH 875 Assessment of Medical Technologies**

Credits: 3

Offered: Occasionally

Prerequisites: Pop Hlth 797 & 800; or cons inst

Cross lists: I SY E, POP HLTH

Basic ideas and tools of cost effectiveness analysis as applied in evaluating medical technologies. Addresses special problems and methods in assessing diagnostic technologies, including ROC analysis, and in measuring health for technology assessment. Uses "classical" and current journal literature.

**PUB AFFR 881 Cost-Benefit Analysis**

Credits: 3

Offered: Fall

Prerequisites: Grad st, Pub Affr 818 & 880 or Pop Hlth 875 & at least one crse in econ or cons inst

Crosslists: A A E, ENVIR ST, PUB AFFR, POP HLTH

This course will present the welfare economics underpinnings for evaluating the social benefits and costs of government activities. Issues such as uncertainty, the social discount rate, and welfare weights will be discussed; case studies from the environmental, social policy, and agricultural areas will be studied.

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**APPROVED ELECTIVES**

**SOCIAL & BEHAVIORAL SCIENCES**

**KINES 521 Physical Activity and Health**

Credits: 3

Offered: Fall

Prerequisites: Kines 314 or cons inst

Research evidence regarding how physical activity and fitness are related to health (e.g., during pregnancy and aging) and disease, especially cardiovascular diseases, obesity, diabetes, osteoporosis, and cancer. Application and communication of knowledge in practical situations.

**PSYCH 528 Introduction to Cultural Psychology**

Credits: 3

Offered: Spring

Prerequisites: Psych 201 or 202 or 281

Cultural underpinning of psychological processes. The course will cover cultural influences on a wide range of psychological processes, including self-perception, motivation, relationship, cognition and perception, and will also deal with acculturation, within-cultural differences and cultural stability and change.

**Sociology 531 Sociology of Medicine**

Credits: 3

Offered: Fall, Spring

Prerequisites: Jr st and intro course in soc or cons inst

Cultural, social, and social psychological factors in disease processes, distribution of disease, social definitions of illness, and organization of the health professions and health facilities.

**C&E SOC 533 Public Health in Rural and Urban Communities**

Credits: 3

Offered: Spring

Prerequisites: Junior st

Cross lists: C&E SOC, SOC

Sociological perspective on health or rural residents and delivery of rural health care. Demographic organization, rural social and community organization, farm and nonfarm environmental influences, and technological advances.

**C&E SOC 541: Environmental Stewardship and Social Justice**

Credits: 3

Offered: Occasionally

Prerequisites:

Cross lists: C&E SOC, SOC

Application of sociological theory and analysis to environmental issues. Course examines the ways in which environmental stewardship and conflict are embedded within broader cultural, social, and political contexts.

**POP HLTH 650 (Section 049) Prevention of Overweight and Obesity**

Credits: 2

Offered: Fall

Prerequisites: Varies

In this course, students focus on overweight and obesity prevention, with a strong focus on pediatric obesity.

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**APPROVED ELECTIVES**

**NURSING 735 Health Promotion and Disease Prevention for Women Across the Lifespan**

Credits: 3

Offered: Occasionally

Prerequisites: Grad st and a course in research design or cons inst

Cross lists: GEN&WS, NURSING

Identification of health concerns for women, recognizing differences among age, socioeconomic, and ethnic groups; synthesis of biophysiological, psychosocial, and cultural influences of such health concerns; analysis and proposal of interventions to promote overall health and to prevent problems among women.

**NURSING 746 Interdisciplinary, Coordinated Care of the Child with Chronic Illness**

Credits: 3

Offered: Occasionally

Prerequisites: Grad st and/or cons inst

Cross lists: NURSING, PEDIAT, PHM PRAC, SOC WORK

Concepts of teamwork, transitions, family perspective, death and dying, cultural competence, adherence, legislative advocacy and public policy are explored within the context of caring for children with chronic illness. Course taught by an interdisciplinary pediatric team.

**HDFS 872 Bridging the Gap between Research and Action**

Credits: 3

Offered: Occasionally

Prerequisites: Grad st

Addresses the critical skills and methods needed to gather and apply research-based knowledge and theory to human development and family studies. Strategies for conducting research relevant to social policy, programs, and the general public will be discussed as well as techniques for communicating research.

**NURSING 880 Prevention Science**

Credits: 3

Offered: Occasionally

Prerequisites: 2nd yr Grad st or cons inst

Cross lists: SOC WORK, ED PSYCH, HDFS

This course provides a theoretical, empirical and practical foundation for prevention science as it relates to the prevention of human social problems. Research and evaluation methods, program design strategies, best practices and policy as they relate to the field of prevention are also examined.

**COMMUNICATION & INFORMATICS**

**JOURN 617 Health Communication in the Information Age**

Credits: 3

Offered: Occasionally

Prerequisites: Journ 565 or equiv

Cross lists: COM ARTS, FAM COM, JOURN, L SC COM

This course will examine the role of communication in health, how the revolution in information technology has affected health communication, and the assumptions about health information and communication that drive current efforts to use technologies.

**POP HLTH 650 (Section 012) Introduction to Social Marketing in Public Health**

Credits: 1

Offered: Summer

Prerequisites: Varies

This course is designed to give students an orientation to social marketing and its specific applications in public health. It is appropriate for current and future practitioners in the public health field. Class sessions combine didactic presentations with group discussion and in-class exercises.

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**APPROVED ELECTIVES**

**POP HLTH 660 Communicating Public Health Information Effectively**

Credits: 1

Offered: Summer

Prerequisites: MPH or graduate student

This one week course is designed to help students improve their ability to communicate with different audiences. From the news media to legislators, and from written to oral communication, students will learn strategies for health communication based on scientific and practical recommendations.

**JOURN 860 Science and Environment Communication**

Credits: 3

Offered: Occasionally

Prerequisites: Grad st

Cross lists: ENVIR ST, JOURN, L SC COM

Course uses available scholarship and commentary to track the evolution of mass media coverage of science and the environment. Emphasis on how journalists utilize evidence, the influence of scientific and journalistic norms on stories, and the effects of mass media on science and environment messages to the public.

**DIVERSITY & CULTURE**

**POP HLTH 644 (Section 010) Interdisciplinary Perspectives on Global Health and Disease: Latin America**

Credits: 2

Offered: Spring

Prerequisites: Grad st or health professional student; or cons inst

This course introduces students to global health challenges and interdisciplinary strategies to address health problems in developing countries with an emphasis on countries in Latin America. The knowledge and skills from these courses will be critical for students who wish to develop a deeper understanding of health problems beyond the boundaries of the United States.

**POP HLTH 644 (Section 020) Interdisciplinary Perspectives on Global Health and Disease: South Asia**

Credits: 2

Offered: Spring

Prerequisites: Grad st or health professional student; or cons inst

This course introduces students to global health challenges and interdisciplinary strategies to address health problems in developing countries with an emphasis on countries in South Asia. The knowledge and skills from these courses will be critical for students who wish to develop a deeper understanding of health problems beyond the boundaries of the United States.

**POP HLTH 644 (Section 030) Interdisciplinary Perspectives on Global Health and Disease: Africa**

Credits: 2

Offered: Spring

Prerequisites: Grad st or health professional student; or cons inst

This course introduces students to global health challenges and interdisciplinary strategies to address health problems in developing countries with an emphasis on countries in Africa. The knowledge and skills from these courses will be critical for students who wish to develop a deeper understanding of health problems beyond the boundaries of the United States.

**POP HLTH 644 (Section 040) Interdisciplinary Perspectives on Global Health and Disease: Southeast Asia**

Credits: 2

Offered: Spring

Prerequisites: Grad st or health professional student; or cons inst

This course introduces students to global health challenges and interdisciplinary strategies to address health problems in developing countries with an emphasis on countries in Southeast Asia. The knowledge and skills from these courses will be critical for students who wish to develop a deeper understanding of health problems beyond the boundaries of the United States.

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**APPROVED ELECTIVES**

**NURSING 702 Health Promotion and Disease Prevention in Diverse Communities**

Credits: 3

Offered: Occasionally

Prerequisites: Grad st

Multidisciplinary approach for health promotion/disease prevention in diverse communities emphasizing the use of epidemiological psychosocial, and environmental data for aggregate/community assessment to determine shared risks, exposures, behaviors and interventions.

**FAMILY MEDICINE 712 Health Care in Diverse Communities**

Credits: 1

Offered: Occasionally

Prerequisites: Stdts enrolled in a prof degree prgm & cons inst

This elective is an introduction to issues in health care provided in diverse communities. Topics include cultural issues in medicine, health disparities, cross-cultural communication, culture and resiliency, historical background and ethics, civil rights in practice and minority health care professionals.

**POP HLTH 650 (Section 026) Public Health and Human Rights: The Case of AIDS Orphans and Vulnerable Children in Africa**

Credits: 1

Offered: Fall, Spring, Summer

Prerequisites: Varies

This course assist students to understand, apply, and analyze the complex and multi-sectoral, programmatic responses of governments and the private sector and the challenges facing AIDS orphans in Africa.

**ANTRHO 919 Anthropology and International Health**

Credits: 2

Offered: Occasionally

Prerequisites: Grad st

Examination of international health issues from the theoretical and methodological perspectives of anthropology. Course includes case studies of applied medical anthropology work as well as critical analysis of development initiatives in public health.

**LEADERSHIP & PROFESSIONALISM**

**MED HIST 559 (Section 001) Justice and Health Care**

Credits: 3

Offered: Occasionally

Prerequisites: Consent of instructor; enrollment may be limited depending on topic and approach

A survey of ethical and social issues in medical ethics and history of medicine. Cooperating faculty may be drawn from philosophy, law, medical ethics, history, political science, public health, economics, education, and communication, as well as medicine and the biological sciences.

**MED HIST 559 (Section 002) Public Health Ethics**

Credits: 3

Offered: Occasionally

Prerequisites: Consent of instructor; enrollment may be limited depending on topic and approach

A survey of ethical and social issues in medical ethics and history of medicine. Cooperating faculty may be drawn from philosophy, law, medical ethics, history, political science, public health, economics, education, and communication, as well as medicine and the biological sciences.

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**APPROVED ELECTIVES**

**MED HIST 559 (Section 003) Health, Disability and Social Justice**

Credits: 3

Offered: Occasionally

Prerequisites: Consent of instructor; enrollment may be limited depending on topic and approach

A survey of ethical and social issues in medical ethics and history of medicine. Cooperating faculty may be drawn from philosophy, law, medical ethics, history, political science, public health, economics, education, and communication, as well as medicine and the biological sciences.

**NURSING 704 LEADERSHIP – ROLES, ETHICS, AND CARE**

Credits: 2

Offered: Occasionally

Prerequisites: Grad st. Required in 1 of first 2 semesters of stdt's MS prog in nursing

Addresses developing and enacting new roles; interpreting legal and professional requirements and regulations; exerting leadership; and examining the ethics, values, beliefs, and norms of decision making in an interdisciplinary, collaborative practice.

## **PROGRAM PLANNING**

**NURSING 761 Health Program Planning, Evaluation, and Quality Improvement**

Credits: 3

Offered: Spring

Prerequisites: Grad st or cons inst

Provides content in theory, concepts, and methods of program planning and evaluation in the context of health care and community health organizations. Provides basic concept related to designing and implementing health services quality improvement projects.

**POP HLTH 803 Monitoring Population Health**

Credits: 3

Offered: Occasionally

Prerequisites: Pop Hlth 797

Students learn applied techniques for community health assessment--a core function of public health. Actual population health data (including census, natality, mortality, hospital discharge, behavioral risk factor) are retrieved from the Web for analysis and interpretation.

**POP HLTH 876 Measuring Health Outcomes**

Credits: 3

Offered: Spring

Prerequisites: Grad stdt in population health & Pop Hlth 795, 797 & 800; or cons inst

Provides a comprehensive understanding of health outcome measures, including generic health status measures, disease-specific measures, and consumer reports of the quality of care.

## **PUBLIC HEALTH BIOLOGY**

**POP HLTH 603 Clinical and Public Health Microbiology**

Credits: 5

Offered: Spring

Prerequisites: MM&I 301 & 302 or equiv

Cross lists: M M & I, POP HLTH

Lectures describe microorganisms of clinical and public health significance. Seminar sessions discuss issues and controversies of specimen receiving and processing, bacteremia, serodiagnosis of infectious agents, antimicrobial susceptibility testing, laboratory management, and novel approaches to detect infectious agents.

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**APPROVED ELECTIVES**

**NUTRI SCI 625 Advanced Nutrition: Obesity and Diabetes**

Credits: 1

Offered: Spring

Prerequisites: Grad st; Nutr Sci 619 or con reg & Physiol 335 or equiv or cons inst

Physiology, biochemistry and genetics of human obesity and diabetes. Critical review of current research on their etiology and treatment.

**MMI 677 Vaccines: Practical Issues for a Global Society**

Credits: 2

Offered: Spring

Prerequisites: Grad st or cons inst

The goal of this course is to introduce the student to vaccinology. Questions that include immunology of vaccination, vaccine development and the application of new technologies, role of immunization in public health programs for infectious disease prevention, economics, political, legal and ethical issues relating to immunization, and impact of immunization in animal populations will be addressed.

**POP HLTH 794 Biological Basis of Population Health**

Credits: 2

Offered: Fall

Prerequisites: Pop Hlth Grad st or MPH stdt; or cons inst

This course covers the physiology, biology and biochemistry of selected disease processes deemed to be important to students of Population Health Sciences by virtue of their clinical significance, including incidence, mortality and morbidity.

## **SYSTEMS THINKING**

**Med Hist 504 Society and Health Care in American History**

Credits: 3

Offered: Fall, Spring

Prerequisites: Jr st & cons inst

Cross lists: HISTORY, HIST SCI, MED HIST

This course is designed to acquaint students with the history of health care in America. Although the focus will be on the past, efforts will be made to relate the past to the present.

**MED HIST 509 The Development of Public Health in America**

Credits: 3

Offered: Fall, Spring

Prerequisites: Jr st & cons inst

Cross lists: HIST SCI, MED HIST

Health problems in the U.S. from the colonial period to the twentieth century; efforts made toward their solutions.

**SOC 532 Health Care Issues for Individuals, Families and Society**

Credits: 3

Offered: Spring

Prerequisites: Jr st

Cross lists: C&E SOC, CNSR SCI, SOC

This course covers issues related to health and health care delivery in our society. Topics include social, cultural and ethical influences on consumer definitions of health and use of medical care, and on the health care system's responses.

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**POP HLTH 553 International Health and Global Society**

Credits: 3

Offered: Fall

Prerequisites: Jr or Sr st, or cons inst

Cross lists: HIST SCI, MED HIST, POP HLTH

Major problems in international health from 1750 to the present. Focus on disease epidemiology and ecology; political economy of health; migration; quarantine; race, ethnicity, and health care; international health research; cross-cultural healing; mental and maternal health; growth of international health organizations.

**I SY E 559 Patient Safety and Error Reduction in Health Care**

Credits: 3

Offered: Spring

Prerequisites: Jr st or cons inst

Cross lists: I SY E, MED PHYS

Techniques for evaluating and reducing risks in medical procedures, including probabilistic risk assessment methods, failure mode and effects analysis, human factors analysis, and quality management. Discussions of patient safety standards, recommendations from agencies, and continual quality improvement.

**I SY E 610 Design of Program Evaluation Systems**

Credits: 3

Offered: Spring

Prerequisites: Sr or Grad st in ind engr or cons inst

Design of systems for evaluating the effectiveness (efficiency, benefits, costs, resource utilization, contribution) of socio-technical systems. Measurement, analysis and interpretation of results including implications for engineering research. Extensive case studies.

**I SY E 617 Health Information Systems**

Credits: 3

Offered: Occasionally

Prerequisites: Sr or Grad st, or cons inst

Cross lists: I SY E, L I S

Provides grounding in core concepts of health information systems. Major applications include clinical information systems, language and standards, decision support, image technology and digital libraries. Evaluation of IE tools and perspectives designed to improve the quality, efficiency and effectiveness of health information.

**POP HLTH 650 (Section 024) Public Health Preparedness**

Credits: 1

Offered: Summer

Prerequisites: MPH or Grad st

This course is designed for health care professionals, MPH students and graduate students aspiring to hold positions responsible for medical emergency management activities in order for them to prepare and implement emergency response plans. It will discuss domestic and foreign emergencies and disasters and planning for their efficient medical response. Although the course's primary focus will be on human populations, this course will also cover animal issues in the context of zoonotic disease outbreaks, human evacuation planning, and animal epidemics and their impact on public health perception and the safety of the food supply.

**POP HLTH 718 International Health Systems**

Credits: 2

Offered: Fall

Prerequisites: Grad st or cons inst

This course addresses and analyzes differences in health status and methods of organizing and providing health services in countries with varying levels of development and types of socio-political systems. Students develop an understanding of the various avenues of international cooperation in health.

MASTER OF PUBLIC HEALTH PROGRAM

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**APPROVED ELECTIVES**

**POP HLTH 796 Introduction to Health Services Research**

Credits: 3

Offered: Spring

Prerequisites: Pop Hlth 795; or cons inst

Introduces students to a variety of perspectives, substantive areas and methodological approaches to health services research that provide the foundation for understanding the structure, process and outcomes of the U.S. health care system.